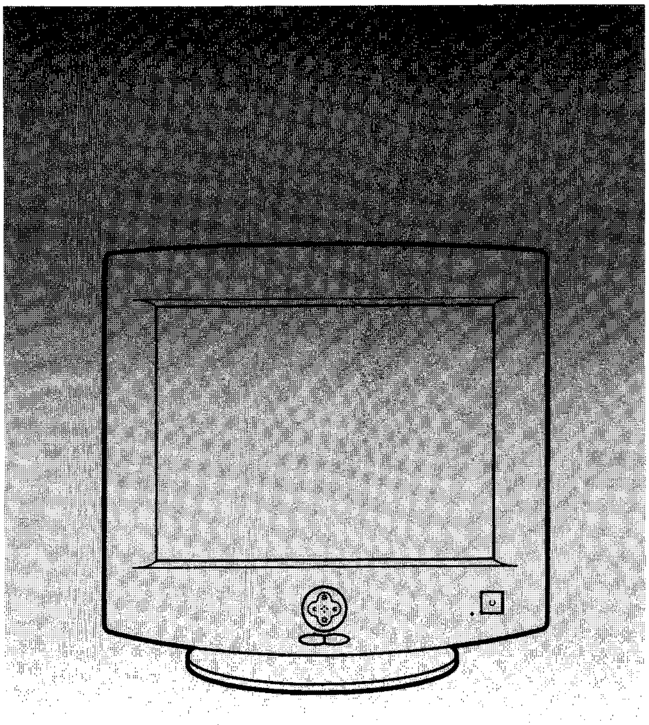
SAMSUNG

COLOR MONITOR

SyncMaster 1000p (CGX1609L)

SERVICE Manual

COLOR MONITOR



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SyncMaster 1000p (CGX1609L) Service Manual

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1 Precautions

Follow these safety, servicing and ESD precautions to prevent damage and to protect against potential hazards such as electrical shock and X-rays.

1-1 Safety Precautions

1-1-1 Warnings

1. For continued safety, do not attempt to modify the circuit board.
2. Disconnect the AC power before servicing.
3. When the chassis is operating, semiconductor heatsinks are potential shock hazards.

1-1-2 Servicing the High Voltage System and CRT

WARNING: A high voltage VR replaced in the wrong direction may cause excessive X-ray emissions.

Caution: When replacing the high voltage adjustment VR, it must be fixed by a soldering iron after it is properly set.

1. When servicing the high voltage system, remove the static charge by connecting a 10k ohm resistor in series with an insulated wire (such as a test probe) between the chassis and the anode lead. (Disconnect the AC line cord from the AC outlet.)
2. **High Voltage VR Replacement**
   If the high voltage system requires adjustment, use the following procedure (all steps are required):
   a. Turn the power off and disconnect the AC line cord from the power source.
   b. Unsolder and remove the high voltage VR on the Main PCB.
   c. Replace the VR and adjust the high voltage to the specification.
   d. Using a soldering iron, melt the adjustment cap on the high voltage VR to prevent any movement.
3. It is essential that service technicians have an accurate high voltage meter available at all times. Check the calibration of this meter periodically.
4. When troubleshooting a monitor with excessively high voltage, avoid being unnecessarily close to the monitor. Do not operate the monitor for longer than is necessary to locate the cause of excessive voltage.
5. High voltage should always be kept at the rated value, no higher. Be sure all service personnel are aware of the procedures and instructions covering X-rays.

   The only potential source of X-ray in current solid state display monitors is the tube. However, the CRT does not emit measurable X-ray radiation if the high voltage is at the high voltage adjustment value.

   Only when high voltage is excessive are X-rays capable of penetrating the shell of the CRT, including the lead in glass material. Operation at high voltages may also cause failure of the CRT or high voltage circuitry.
6. When the high voltage regulator is operating properly, there is no possibility of an X-ray problem. Test the brightness and use a meter to monitor the high voltage each time a color monitor comes in for service. Make sure the high voltage does not exceed its specified value and that it is regulating correctly.
7. The CRT is especially designed to prohibit X-ray emissions. To ensure continued X-ray protection, replace the CRT with only one that is the same or equivalent type as the original. Carefully reinstall the CRT shields and mounting hardware; these also provide X-ray protection.
8. Handle the CRT only when wearing shatterproof goggles and after completely discharging the high voltage anode.
9. Do not lift the CRT by the neck.

1-1-3 Fire and Shock Hazard

Before returning the monitor to the user, perform the following safety checks:

1. Inspect each lead dress to make certain that the leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the monitor.
2. Inspect all protective devices such as nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.

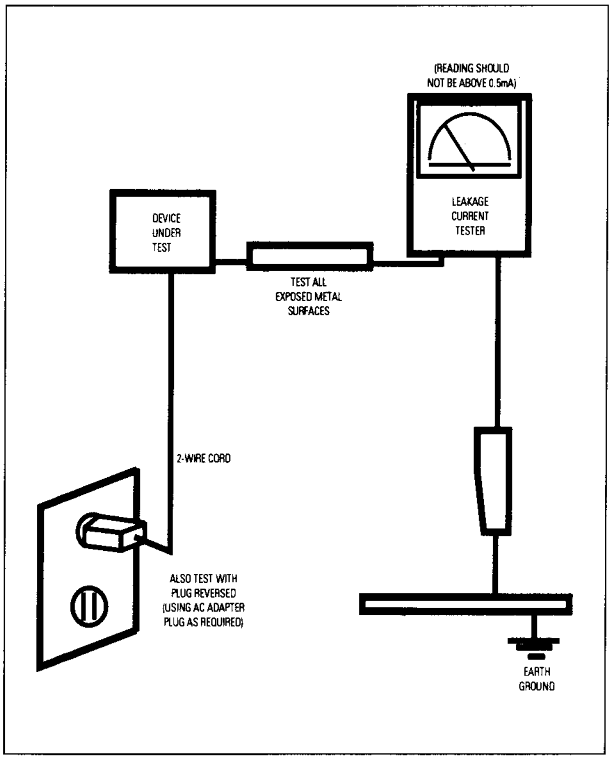

(READING SHOULD NOT BE ABOVE 0.5mA)
LEAKAGE CURRENT TESTER
DEVICE UNDER TEST
TEST ALL EXPOSED METAL SURFACES
2-WIRE CORD
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUG AS REQUIRED)
EARTH GROUND

Figure1-1. Leakage Current Test Circuit

3. Leakage Current Hot Check (Figure 1-1):
   WARNING: Do not use an isolation transformer during this test.
   Use a leakage current tester or a metering system that complies with American National Standards Institute (*ANSI C101.1, Leakage Current for Appliances*), and Underwriters Laboratories (*UL Publication UL1410, 59.7*).
4. With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

1-1-4 Product Safety Notices

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection. The protection they give may not be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by ⚠ on schematics and parts lists. A substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire and / or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate.

Components identified by ☢ on schematics and parts lists must be sealed by a soldering iron after replacement and adjustment.

1-2 Servicing Precautions

WARNINGS: **A high voltage VR replaced in the wrong direction may cause excessive X-ray emissions.**
An electrolytic capacitor installed with the wrong polarity might explode.

Cautions: Before servicing units covered by this service manual, read and follow the Safety Precautions section of this manual.

When replacing the high voltage adjustment VR, it must be fixed by a soldering iron after it is properly set.

Note: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions.

1-2-1 General Servicing Precautions

1. Servicing precautions are printed on the cabinet, and should be followed closely.
2. Always unplug the unit's AC power cord from the AC power source before attempting to:
   (a) remove or reinstall any component or assembly, (b) disconnect PCB plugs or connectors, (c) connect a test component in parallel with an electrolytic capacitor.
3. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
4. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the area around the serviced part has not been damaged.
5. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
6. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500 V) to the blades of the AC plug.

   The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
7. Never defeat any of the +B voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.
8. Always connect a test instrument's ground lead to the instrument chassis ground *before* connecting the positive lead; always remove the instrument's ground lead last.

1-3 Electrostatically Sensitive Devices (ESD) Precautions

Some semiconductor (solid state) devices can be easily damaged by static electricity. Such components are commonly called Electrostatically Sensitive Devices (ESD). Examples of typical ESD devices are integrated circuits and some field-effect transistors. The following techniques will reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. To avoid a shock hazard, be sure to remove the wrist strap before applying power to the monitor.
2. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of an electrostatic charge.
3. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESDs.
4. Use only a grounded-tip soldering iron to solder or desolder ESDs.
5. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESDs.
6. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
7. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.

   Caution: Be sure no power is applied to the chassis or circuit and observe all other safety precautions.
8. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting your foot from a carpeted floor can generate enough static electricity to damage an ESD.
9. ⚠ Indicates ESDs on the Schematic Diagram in this manual.

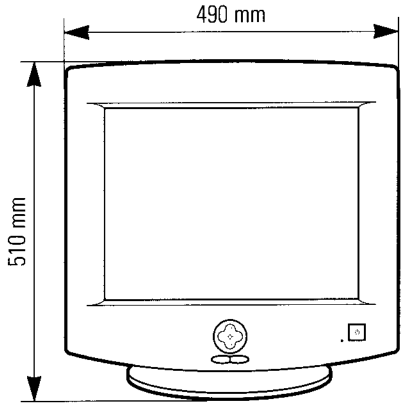
2 Product Specifications

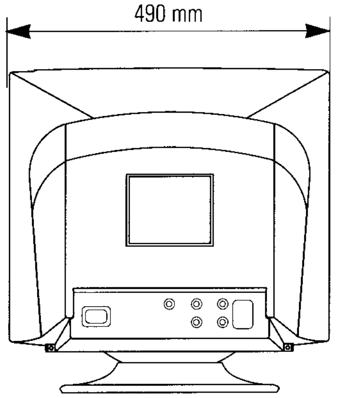
2-1 Specifications

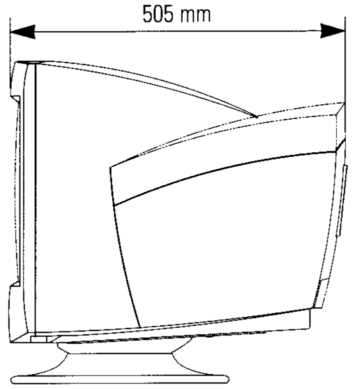
Item	Description
Picture Tube:	21-Inch (53 cm): 19.7-inch (50 cm) viewable, Full-square flat-face tube, 90° Deflection, 0.25 mm Dot pitch, Seme-tint, Non-glare, Anti-reflection and Anti-static charge coating
Scanning Frequency	Horizontal : 30 kHz to 107 kHz (Automatic) Vertical : 50 Hz to 160 Hz (Automatic)
Display Colors	Unlimited colors
Maximum Resolution	Horizontal : 1600 Dots Vertical : 1200 Lines
Input Video Signal	Analog, 0.714 Vp-p positive at 75 Ω, internally terminated
Input Sync Signal	Separate Sync : TTL level positive/negative Sync-on-green : Composite Sync 0.286 Vp-p ± 5%/ negative (video on Vp-p positive) Composite Sync : TTL level positive/negative
Maximum Pixel Clock rate	230 MHz
Active Display	Horizontal : 390 mm ± 3 mm (4:3 ratio)/366 mm ± 3 mm (5:4 ratio) Vertical : 292.5 mm ± 3 mm
Input Voltage	AC 90-132 / 198-264 Volts, 60/ 50 Hz ± 3 Hz
Power Consumption	190 Watt (max)
Dimensions	
Unit (W x D x H)	19.3 x 19.9 x 20.1 Inches (490 x 505 x 510 mm)
Carton (W x D x H)	24.1 x 25.0 x 25.3 Inches (612 x 633 x 642 mm)
Weight	Net/Gross : 70.6 lbs (32 kg) / 79.4 lbs (36 kg)
Environmental Considerations	Operating Temperature ·: 32°F to 104°F (0°C to 40°C) Humidity : 10 % to 80 % Storage Temperature : -4°F to 113°F (-20°C to 45°C) Humidity : 5 % to 95 %
CRT Code No.	BH03-10335V

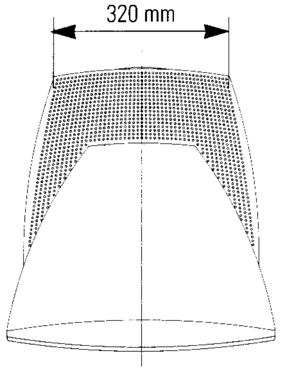
- The SyncMaster 1000p (CGX1609L) complies with SWEDAC (MPR II) recommendations for reduced electromagnetic fields.
- Designs and specifications are subject to change without prior notice.

2-2 Dimensions


490 mm
510 mm







2-3 Pin Assignments

Sync Type / Pin No.	15-Pin Signal Cable Connector (Figure 2-1)			Cable Adapter (Figure 2-2)
	Separate	Composite	Sync-On Green	Macintosh
1	Red	Red	Red	GND-R
2	Green	Green	Green + H/V Sync	Red
3	Blue	Blue	Blue	H/V Sync
4	GND	GND	GND	Sense 0
5	DDC Return	DDC Return	DDC Return	Green
6	GND-R	GND-R	GND-R	GND-G
7	GND-G	GND-G	GND-G	Sense 1
8	GND-B	GND-B	GND-B	Reserved
9	Reserved	Reserved	Reserved	Blue
10	GND-Sync/Self-raster	GND-Sync/Self-raster	GND-Sync/Self-raster	Sense 2
11	GND	GND	GND	GND
12	DDC Data	DDC Data	DDC Data	V-Sync
13	H-Sync	H/V-Sync	Not Used	GND-B
14	V-Sync	Not Used	Not Used	GND
15	DDC Clock	DDC Clock	DDC Clock	H-Sync

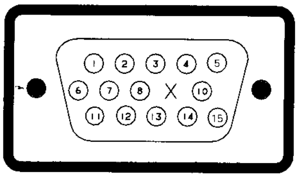


Figure 2-1. Male Type

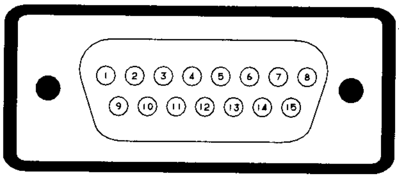


Figure 2-2. Male Type

BNC Connectors

BNC connectors are used with coaxial cable for improved signal transmission. Better signal transmission becomes critical at high frequencies, such as those required for 1280 x 1024 resolution. Most video boards that operate at 1280 x 1024 resolution recommend using coaxial cable with BNC connectors. The 5 BNC connectors on the rear of the monitor can accept Red, Green and Blue video. Composite sync can be applied separately, or combined with the Green video signal (commonly referred to as "composite sync-on green"). If composite sync-on green is used, then only 3 of the 5 BNC connectors are used. The connectors are labeled accordingly.

Pin Assignment	Signals		
	Sync-on-Green	Composite Sync	Separate Sync
1	Red	Red	Red
2	Green + Sync	Green	Green
3	Blue	Blue	Blue
4	NC	H/V Comp. Sync	H-Sync
5	NC	NC	V-Sync

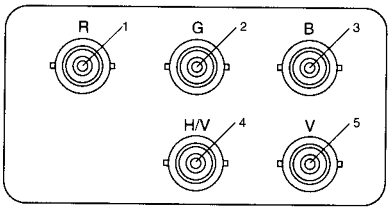


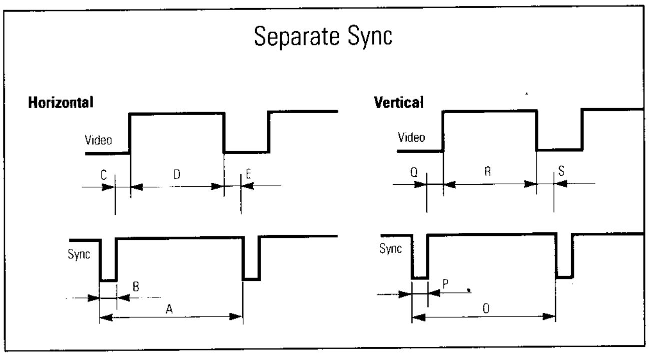
Figure 2-2. BNC Signal Input Type

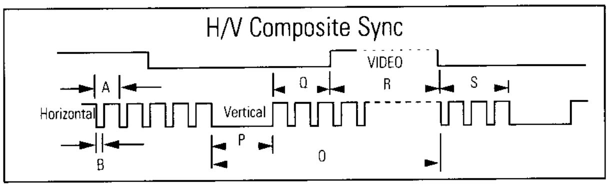
2-4 Timing Chart

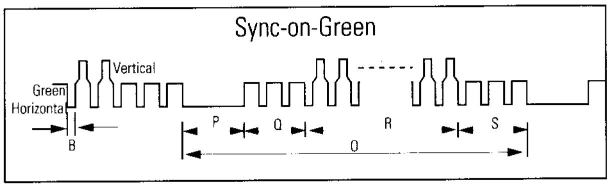
This section of the service manual describes the timing that the computer industry recognizes as standard for computer-generated video signals.

Table 2-1. Timing Chart

Mode	IBM		VESA				Apple Mac.
Timing	VGA2/70 Hz 720 x 400	VGA3/60 Hz 640 x 480	800/85 Hz 800 x 600	1280/75 Hz 1280 x 1024	1280/85 Hz 1280 x 1024	1600/85 Hz 1600 x 1200	1152/75 Hz 1152 x 870
fH (kHz)	31.469	31.469	53.674	79.976	91.146	106.25	68.681
A µsec	31.777	31.778	18.631	12.504	10.971	9.412	14.560
B µsec	3.813	3.813	1.138	1.067	1.016	0.837	1.280
C µsec	1.589	1.589	2.702	1.837	1.422	1.325	1.440
D µsec	26.058	26.058	14.222	9.481	8.127	6.972	11.520
E µsec	0.318	0.318	0.569	0.119	0.406	0.279	0.320
fv (Hz)	70.087	59.940	85.061	75.025	85.024	85.000	75.062
O msec	14.268	16.683	11.756	13.329	11.761	11.765	13.322
P msec	0.064	0.064	0.056	0.038	0.033	0.028	0.044
Q msec	0.858	0.794	0.503	0.475	0.483	0.433	0.568
R msec	13.155	15.761	11.179	12.804	11.235	11.294	12.667
S msec	0.191	0.064	0.019	0.013	0.011	0.009	0.044
Clock Frequency (MHz)	28.322	25.175	56.250	135.000	157.50	229.500	100.000
Polarity H.Sync V.Sync	 Negative Positive	 Negative Negative	 Positive Positive	 Positive Positive	 Positive Positive	 Positive Positive	 Negative Negative
Remark	Separate	Separate	Separate	Separate	Separate	Separate	Composite


Separate Sync


H/V Composite Sync


Sync-on-Green

A : Line time total
B : Horizontal sync width
C : Back porch
D : Active time
E : Front porch

O : Frame time total
P : Vertical sync width
Q : Back porch
R : Active time
S : Front porch

3 Opearating Instructions

3-1 Controls and Connectors

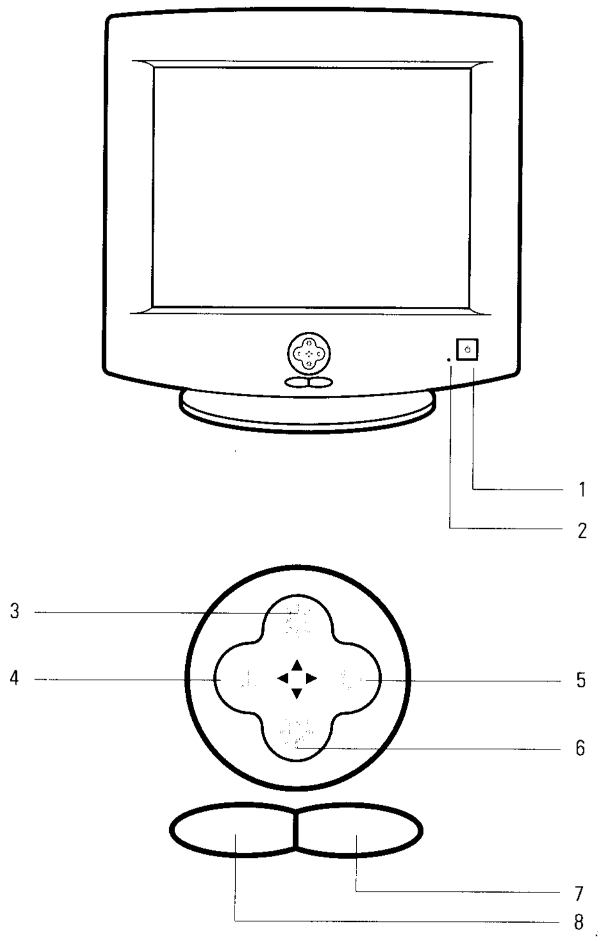


Figure 3-1. Front View and Controls

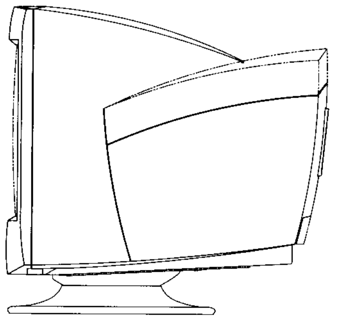


Figure 3-2. Side View

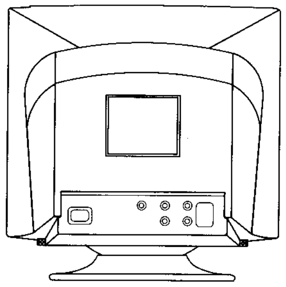


Figure 3-3. Rear View

Table 3-1. Front Panel Controls

Location	Symbol	Description
1	⏻	Power Button
2	○	Power Indicator LED (Dual Color)
3	▲	Up Button
4	◀	Left Button
5	▶	Right Button
6	▼	Down Button
7	⬭	Menu (↵) Button
8	⬭	Exit Button

3-3 Power Management System

This monitor has a built-in power management system called PowerSaver. This system saves energy by switching your monitor into a low-power mode when it has not been used for a certain amount of time. The available modes are "On," "Standby," "Suspend," and "Off."

This system operates with a VESA DPMS compliant video card installed in your computer. You use a software utility installed on your computer to set up this feature. See the table below for details.

Note 1: This monitor automatically returns to normal operation when horizontal and vertical sync return. This occurs when you move the computer's mouse or press a key on the keyboard.

Table 3-2. Display Power Management Signaling (DPMS)

State / Items	Normal Operation	Power Saving Function EPA/NUTEK		
		Standby Mode	**Suspend Mode/ Position A1**	**Power-off Mode/ Position A2**
Horizontal Sync	Active	Inactive	Active	Inactive
Vertical Sync	Active	Active	Inactive	Inactive
Video	Active	Blanked	Blanked	Blanked
Power Indicator	Green	Orange	Orange/Green Blinking	Orange Blinking
Power Consumption	190 W (max.) 170 W (nominal)	130 W (max) 110 W (nominal)	Less than 30 W	Less than 8 W

Note 2: This monitor is EPA Energy Star compliant and NUTEK compliant when used with a computer equipped with VESA DPMS functionality. If your computer system cannot support a display power management function, you can purchase an optional DPMS software program to enable the power saving function. Please contact Samsung or your dealer for more information.

Note 3: For energy conservation, turn your monitor OFF when it is not needed, or when leaving it unattended for long periods.

4 Disassembly and Reassembly

This section of the service manual describes the disassembly and reassembly procedures for the SyncMaster 1000p (CGX1609L) monitor.

WARNING: This monitor contains electrostatically sensitive devices. Use caution when handling these components.

4-1 Disassembly

Cautions: 1. Disconnect the monitor from the power source before disassembly.
2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.

4-1-1 Disassembling the Cabinet

1. To uncover the 2 uppermost screws, press in the end of each Screw Cap and pull it away from the cabinet.
2. Remove the 4 screws on the Rear Cover and pull it backward to remove it.

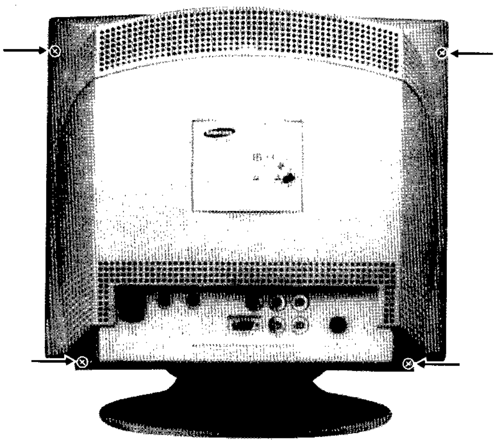


Figure 4-1

3. Remove the 8 screws on the Top Shield Cover and remove it.

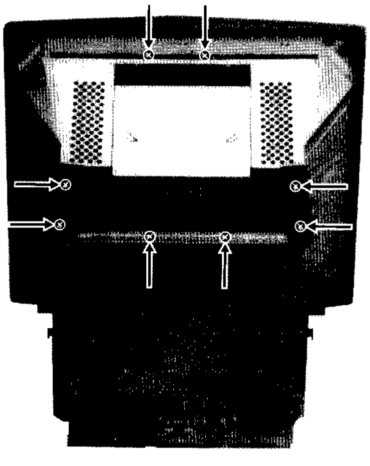


Figure 4-2

4. Remove the 6 screws and Chassis ground wire on the side of both the Left and Right Shield and remove the Shields.

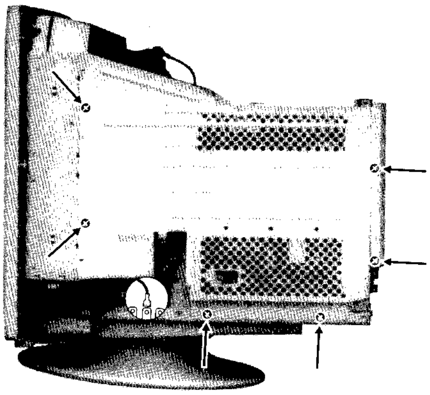


Figure 4-3

5. Remove both side screws on the lower edge of the Stand Assembly and pull the assembly towards you to remove it.

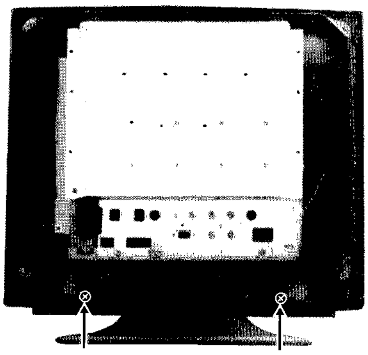


Figure 4-4

4-1-2 Removing the Entire PCB Assembly

1. Complete all previous steps.
2. Using pinch-nosed pliers or long-nosed pliers, carefully disconnect the Anode Cap from the CRT.
3. Disconnect connector CN112 on the CRT Socket PCB.
4. Disconnect the CRT Socket PCB Assembly.
5. Disconnect connectors GT401~GT404, GT301~GT303, CN203 and CN402 on the Main PCB and CN605 on the Video PCB.

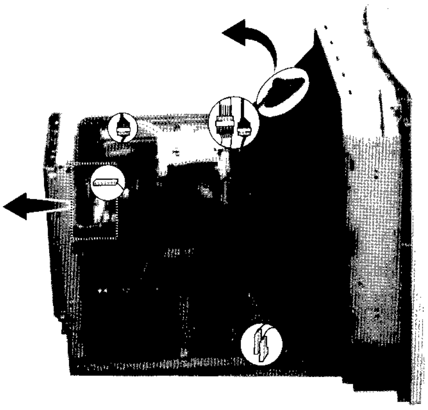


Figure 4-5

6. Remove the 3 screws on the Main PCB Chassis Bracket.
7. Lift off the entire PCB Assembly and place it on a flat, level surface that is protected from Static electricity.

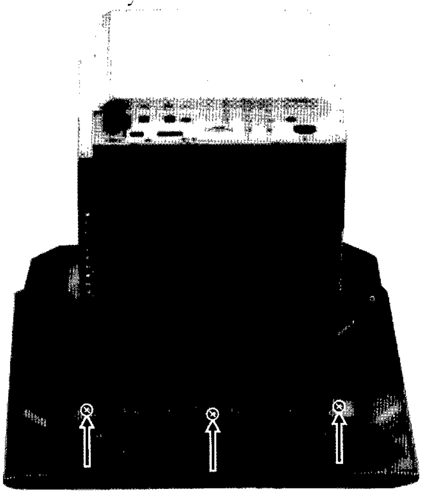


Figure 4-6

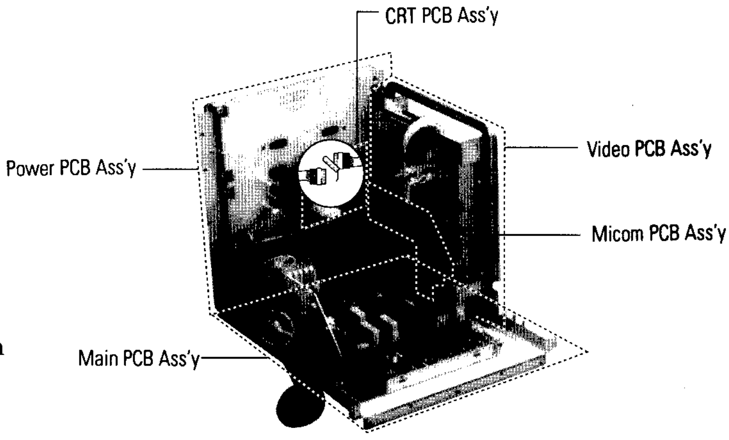


Figure 4-7

4-1-3 Removing the CRT Socket PCB

1. Complete all previous steps.
2. Disconnect connectors CNGRN1, CNRED1 and G2 (J478) on the CRT Socket PCB.
3. Hold the CRT Socket PCB Assembly while you lift the Cap on the CRT Socket and desolder the two focus wires.

4-1-4 Removing the Video PCB

1. Complete all previous steps.
2. Remove both side screws on the Video PCB Assembly Rear Shield.
3. Lift off the Video PCB Assembly.

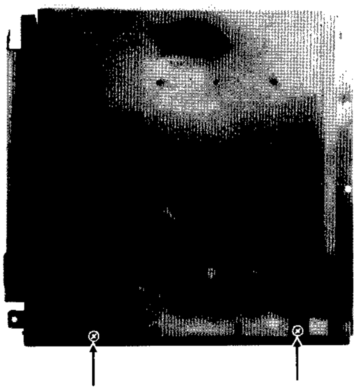


Figure 4-8

4. Remove all screws on the Video PCB Assembly and remove the Video Shield.
5. Remove the 4 screws on the Video PCB.
6. Lift out the Video PCB and place it on a flat, level surface that is protected from static electricity.

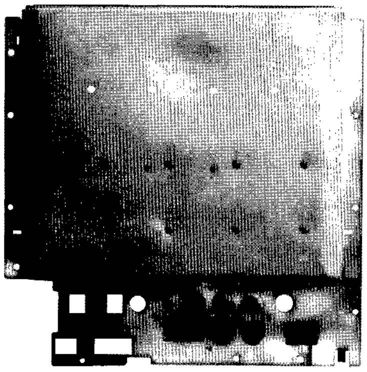


Figure 4-9

4-1-5 Removing the Power PCB

1. Complete all previous steps.
2. Disconnect CN602 on the Power PCB.
3. Remove the screw on the lower side of the SMPS Bracket.
4. Lift off the Power PCB Assembly.
5. Remove the Shield Cover and disconnect CN601 on the Power PCB.

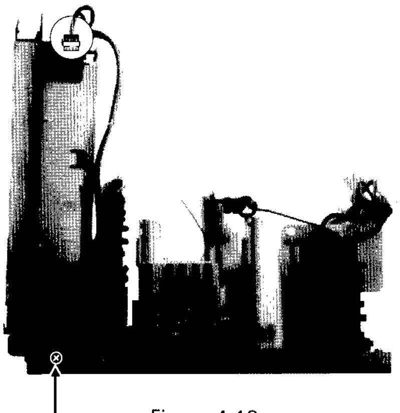


Figure 4-10

6. Remove the 4 screws on the Power PCB.
7. Lift out the Power PCB and place it on a flat, level surface that is protected from static electricity.

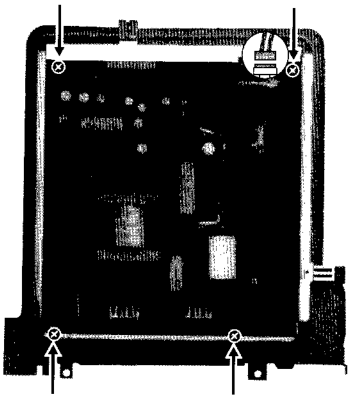


Figure 4-11

4-1-6 Removing the MICOM PCB

1. Complete all previous steps.
2. Push the MICOM PCB Assembly frame towards the PCM and pull up the MICOM PCB Assembly.

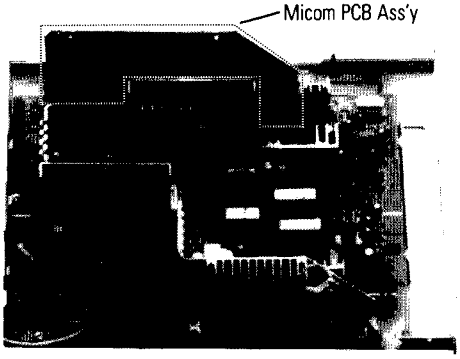


Figure 4-12

3. Desolder the 4 side corners on the MICOM PCB and remove the Shield Cover.
4. Place MICOM PCB on a flat, level surface that is protected from static electricity.

4-1-7 Removing the Main PCB

1. Complete all previous steps.
2. Remove the 7 screws on the Main PCB.
3. Carefully lift out the Main PCB and place it on a flat, level surface that is protected from static electricity.

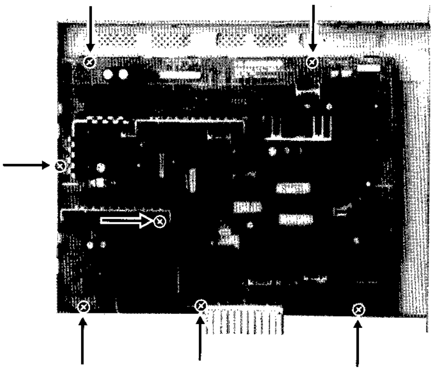


Figure 4-13

4-1-8 Disassembling the CRT Assembly

1. Complete all previous steps.

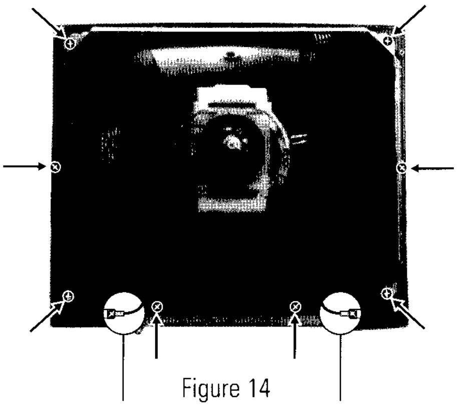


Figure 14

2. Remove the 2 screws (a and b) on the CRT frame.
3. Remove the other 8 screws and lift off the CRT frame.
4. Straighten the Degaussing Coil Assembly coated metal ties and lift the Coil from the CRT.
5. Lift the CRT up and away from the Front Cover Assembly and place it on a padded surface.

⚠ **Do not lift the CRT by the neck.**

Caution: If you will be returning this CRT to the monitor, be sure to place the CRT face down on a protective pad.

4-2 Reassembly

With the CRT facing downward on a protective pad, use the steps that follow to reassemble the monitor.

4-2-1 Replacing the CRT

1. Loop the CRT Ground Assembly around the back of the CRT and under the 4 corner metal ears. Position the corner with the spring last.
2. With the Front Cover Assembly lying face down on a protective pad, position the CRT so that the corner metal ears fit properly in the Front Cover Assembly.
3. Secure the CRT Ground Assembly and CRT at each of the 4 corners with the CRT screws.
4. Replace the Degaussing Coil Assembly and wrap the Coil with the plastic coated metal ties to hold the Coil in place.
5. Replace the 4 screws on the CRT frame.
6. Replace the 2 screws holding the ground wires on the CRT frame.

4-2-2 Replacing the Main PCB

1. Complete all previous steps.
2. Position the Main PCB on the Main PCB Chassis frame.
3. Replace the 7 screws on the Main PCB.

4-2-3 Replacing the MICOM PCB

1. Complete all previous steps.
2. Position the MICOM PCB in its Shield and solder the 4 corners on the underside of the MICOM PCB Shield.
3. Position the MICOM PCB Assembly over CN220 on the Main PCB and push downward to secure the connection.

4-2-4 Replacing the Power PCB

1. Complete all previous steps.
2. Position the Power PCB and replace the 4 screws.
3. Reconnect CN601 on the Power PCB and replace the Shield Cover.
4. Position the Power PCB Assembly on the Main PCB Chassis Bracket.
5. Replace CN602 on the Power (SMPS) PCB.
6. Replace the screw on the bottom side of the SMPS Bracket.

4-2-5 Replacing the Video PCB

1. Complete all previous steps.
2. Position the Video PCB on the Video Shield.
3. Replace the 4 screws on the Video PCB.
4. Replace all screws on the Video PCB Assembly Shield.
5. Position the Video PCB Ass'y on the Main PCB Chassis Bracket.
6. Replace both side screws on the Video PCB Assembly Rear-Shield.

4-2-6 Replacing the CRT Socket PCB

1. Complete all previous steps.
2. Hold the CRT Socket PCB Assembly while you lift the Caps on the CRT Socket and solder the two Focus wires.
3. Replace connectors CNGRN1, CNRED1 and G2 (J478) on the CRT Socket PCB.

4-2-7 Replacing the Entire PCB Assembly

1. Complete all previous steps.
2. Position the Entire PCB Assembly on the CRT frame.
3. Replace the 3 screws on the Main PCB Chassis Bracket.
4. Replace connectors GT301~GT303, GT401~GT404, CN203, and CN402 on the Main PCB and CN605 on the Video PCB.
5. Replace the CRT Socket PCB Assembly.
6. Replace CN112 on the CRT Socket PCB.
7. Replace the Anode Cap.

4-2-8 Cabinet Reassembly

1. Complete all previous steps.
2. Position the Stand Assembly on the Bottom Bracket.
3. Replace both side screws on the lower edge of the Stand Assembly.
4. Replace the Left and Right Shields and replace the 6 screws that hold each side. Replace the Chassis ground wire on each side.
   Make sure the 2 hooks on the Right side of the Video PCB are engaged.
5. Replace the 8 screws on the Top Shield Cover.
6. Replace the 4 screws on the Rear Cover.

Memo

5 Alignment and Adjustments

This section of the service manual explains how to make permanent adjustments to the monitor. Direction is given for adjustment using the RS232C Serial Communications Adapter and software.

5-1 Adjustment Conditions

Caution: Changes made without the SoftJig are saved only to the user mode settings. As such, the settings are not permanently stored and may be inadvertently deleted by the user.

5-1-1 Before Making Adjustments

5-1-1 (a) ORIENTATION

When servicing, always face the monitor to the east.

5-1-1 (b) MAGNETIC FIELDS

Whenever possible, use magnetic field isolation equipment such as a Helmholtz field to surround the monitor. If a Helmholtz field is not available, frequently degauss the unit under test.

Caution: Other electrical equipment may cause external magnetic fields which may interfere with monitor performance.

Use an external degaussing coil to limit magnetic build up on the monitor. If an external degaussing coil is not available, use the internal degaussing circuit. However, do not use the internal degaussing circuit more than once per 30 minutes.

5-1-1 (c) WARM-UP TIME

The monitor must be on for 30 minutes before starting alignment. Warm-up time is especially critical in color temperature and white balance adjustments.

5-1-1 (d) SIGNAL

Analog, 0.714 Vp-p positive at 75 ohm, internal termination
Sync: Separate/Composite
(TTL level negative/positive)

Sync-on-Green:
Composite sync 0.286 Vp-p negative
(Video 0.714 Vp-p positive)

5-1-1 (e) SCANNING FREQUENCY

Horizontal:	30 kHz to 107 kHz
Vertical:	50 Hz to 160 Hz

All modes must be individually adjusted and adjustments saved. This monitor does not automatically adjust each mode.

Refer to Table 2-1 on pages 2-4 and 2-5.

5-1-1 (f) HIGH VOLTAGE ADJUSTMENT

Signal:	1280 x 1024 mode (79.9 kHz/75 Hz)
Display image:	Crosshatch pattern
Contrast:	Maximum
Brightness:	Maximum
Limit:	27 kV ± 0.5 kV

Measure the high voltage level at the anode cap. High voltage should be within the limit as above. If the high voltage needs adjustment use the following procedure:

PROCEDURE

Adjust VR502 on the Main PCB so that the high voltage measures 27 kV ± 0.5 kV.

5-1-1 (g) G2 (SCREEN) VOLTAGE ADJUSTMENT

Signal:	1280 x 1024 mode (79.9 kHz/75 Hz)
Display image:	Crosshatch pattern
Contrast:	Maximum
Brightness:	Maximum

Adjust the Screen VR of the FBT so that the G2 (Screen) Voltage for Matsushita is 500 V ± 10 V.

5-1-1 (h) CENTER RASTER

Signal:	1600 x 1200 mode (106 kHz/85 Hz) 640 x 480 (31.4 kHz/60 Hz)
Display image:	Crosshatch pattern
Contrast:	Maximum
Brightness:	Maximum

After starting the adjustment program, connect the RS232C cable to the Micom Control Jack on the back the monitor. Press the 'ALT-E' keys to refresh the Data and confirm the initial Data. Adjust the R_CENT 107K to move the Raster to the center of the screen. Using a Crosshatch pattern and timing of 31.4 kHz/60 Hz, adjust the R_CENT 31K to move the Raster to the center of the screen.

5-1-1 (i) BRIGHTNESS AND CONTRAST

Unless otherwise specified, adjust control buttons:

Brightness:	Maximum
Contrast:	Maximum

5-1-2 Required Equipment

The following equipment may be necessary for adjustment procedures:

5-1-2 (a) DISPLAY CONTROL ADJUSTMENT

1. Non-metallic (–) screwdriver: 1.5 mm
   Non-metallic (–) screwdriver: 3 mm
2. Philips (+) screwdriver: 1.5 mm
3. Digital Multimeter (DMM), or
   Digital Voltmeter (DVM)
4. Signal generator, or
   Computer with a video board that uses the ET-4000 chipset (strongly recommended if using Samsung DM 200 software) and that displays: 1280 x 1024 @ 85 Hz, or 800 x 600 @ 85 Hz (minimum).
5. Personal computer
6. Samsung DM200, or Display Mate for Windows from Sonera Technologies
7. RS232C Serial communications adapter

5.1-2 (b) COLOR ADJUSTMENTS

1. All equipment listed in 5-1-2 (a), above
2. Color analyzer, or any luminance measurement equipment

5-1-3 Connecting the SoftJig

Connect the monitor to the signal generator and/or PC as illustrated in Figures 5-1 and 5-2.

Note: The signal cable connector which includes the 3-wire cable must connect to the monitor. If you use Setup 2 (PC only, no signal generator) you can only make adjustments to the signal timing available on that computer system. To make corrections to all factory timings requires the use of an additional signal generator.

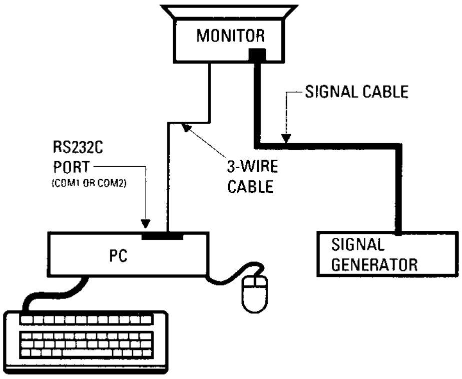

MONITOR
SIGNAL CABLE
RS232C
PORT
(COM1 OR COM2)
3-WIRE
CABLE
PC
SIGNAL
GENERATOR

Figure 5-1. Setup 1, With Signal Generator

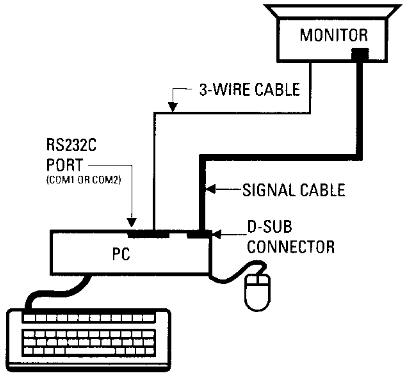

MONITOR
3-WIRE CABLE
RS232C
PORT
(COM1 OR COM2)
SIGNAL CABLE
D-SUB
CONNECTOR
PC

Figure 5-2. Setup 2, Without Signal Generator

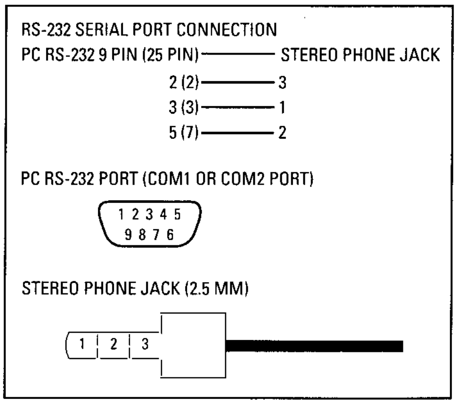

RS-232 SERIAL PORT CONNECTION
PC RS-232 9 PIN (25 PIN) STEREO PHONE JACK
2 (2) 3
3 (3) 1
5 (7) 2
PC RS-232 PORT (COM1 OR COM2 PORT)
1 2 3 4 5
9 8 7 6
STEREO PHONE JACK (2.5 MM)
1 2 3

Figure 5-3. 3 Wire Cable

5-1-4 After Making Adjustments

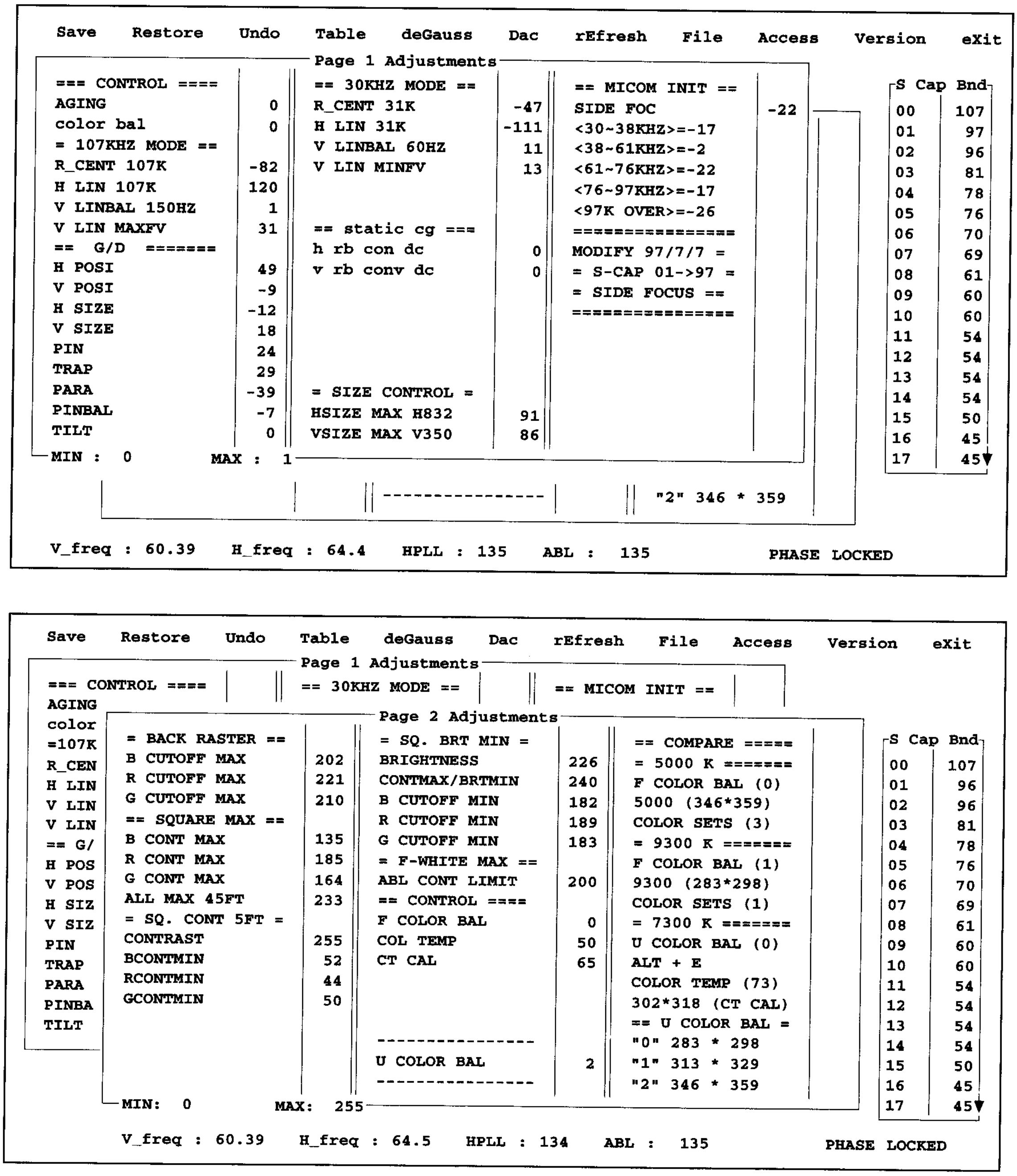
After finishing all adjustments, test the monitor in all directions. If, for example, the monitor does not meet adjustment specifications when facing north, reposition the monitor to face east and readjust. This time, try for an adjustment closer to the ideal setting within the tolerance range. Test the unit again in all directions. If the monitor again fails to meet specifications in every direction, contact your Regional After Service Center for possible CRT replacement.

5-2 Using the SoftJig

The SoftJig is a combination of hardware and software which, when properly installed, can provide an easy method for adjusting the settings in the monitor's microprocessor.

Note: Adjustments for the SyncMaster 1000p (CGX1609L) monitor require the SoftJig software and hardware. If you do not have the SoftJig, contact your Regional After Service Center.

Caution: If you do not have a dedicated signal generator available and must connect the monitor under repair to the computer (Setup 2), SoftJig can make adjustments only to those signal frequencies that the computer can transmit. Should the monitor owner subsequently use a different signal timing, the appropriate adjustments must be remade for the new signal frequency.



```
 Save   Restore   Undo   Table   deGauss   Dac   rEfresh   File   Access   Version   eXit
                         Page 1 Adjustments
 === CONTROL ====          == 30KHZ MODE ==            == MICOM INIT ==                S Cap Bnd
 AGING               0     R_CENT 31K          -47     SIDE FOC           -22          00   107
 color bal           0     H LIN 31K          -111     <30~38KHZ>=-17                  01    97
 = 107KHZ MODE ==          V LINBAL 60HZ        11     <38~61KHZ>=-2                   02    96
 R_CENT 107K       -82     V LIN MINFV          13     <61~76KHZ>=-22                  03    81
 H LIN 107K        120                                 <76~97KHZ>=-17                  04    78
 V LINBAL 150HZ      1                                 <97K OVER>=-26                  05    76
 V LIN MAXFV        31     == static cg ===            ================                06    70
 ==  G/D  =======          h rb con dc           0     MODIFY 97/7/7 =                 07    69
 H POSI             49     v rb conv dc          0     = S-CAP 01->97 =                08    61
 V POSI             -9                                 = SIDE FOCUS ==                 09    60
 H SIZE            -12                                 ================                10    60
 V SIZE             18                                                                 11    54
 PIN                24                                                                 12    54
 TRAP               29                                                                 13    54
 PARA              -39     = SIZE CONTROL =                                            14    54
 PINBAL             -7     HSIZE MAX H832       91                                     15    50
 TILT                0     VSIZE MAX V350       86                                     16    45
 MIN :  0      MAX :  1                                                                17    45▼

                              ----------------              "2" 346 * 359

 V_freq : 60.39    H_freq : 64.4    HPLL : 135    ABL :  135           PHASE LOCKED
```

```
 Save   Restore   Undo   Table   deGauss   Dac   rEfresh   File   Access   Version   eXit
                         Page 1 Adjustments
 === CONTROL ====          == 30KHZ MODE ==            == MICOM INIT ==
 AGING
 color                     Page 2 Adjustments
 =107K  = BACK RASTER ==          = SQ. BRT MIN =             == COMPARE =====          S Cap Bnd
 R_CEN  B CUTOFF MAX      202     BRIGHTNESS          226     = 5000 K =======          00   107
 H LIN  R CUTOFF MAX      221     CONTMAX/BRTMIN      240     F COLOR BAL (0)           01    96
 V LIN  G CUTOFF MAX      210     B CUTOFF MIN        182     5000 (346*359)            02    96
 V LIN  == SQUARE MAX ==          R CUTOFF MIN        189     COLOR SETS (3)            03    81
 == G/  B CONT MAX        135     G CUTOFF MIN        183     = 9300 K =======          04    78
 H POS  R CONT MAX        185     = F-WHITE MAX ==            F COLOR BAL (1)           05    76
 V POS  G CONT MAX        164     ABL CONT LIMIT      200     9300 (283*298)            06    70
 H SIZ  ALL MAX 45FT      233     == CONTROL ====             COLOR SETS (1)            07    69
 V SIZ  = SQ. CONT 5FT =          F COLOR BAL           0     = 7300 K =======          08    61
 PIN    CONTRAST          255     COL TEMP             50     U COLOR BAL (0)           09    60
 TRAP   BCONTMIN           52     CT CAL               65     ALT + E                   10    60
 PARA   RCONTMIN           44                                 COLOR TEMP (73)           11    54
 PINBA  GCONTMIN           50                                 302*318 (CT CAL)          12    54
 TILT                                                         == U COLOR BAL =          13    54
                                  ----------------            "0" 283 * 298             14    54
                                  U COLOR BAL           2     "1" 313 * 329             15    50
                                  ----------------            "2" 346 * 359             16    45
        MIN:  0       MAX:  255                                                         17    45▼
        V_freq : 60.39    H_freq : 64.5    HPLL : 134    ABL :  135           PHASE LOCKED
```

Figure 5-3. SoftJig Monitor Control Screens

5-2-1 Using the Control Panel program

The Control Panel program consists of

PANEL.EXE;	execution file for CGX1609 monitor control
GD.BAT;	batch file for adjusting geometric distortion
WB.BAT;	batch file for adjusting white balance
CONFIG.DL	text file
HELP.DL	text file
MENUTEXT.DL	text file
GD.DRV;	defines control registers for geometric distortion
WB.DRV;	defines control registers for white balance
MONITOR.DRV;	driver file for PANEL.EXE

5-2-1 (a) COMMANDS

Save (ALT+S)

Select this function to save the current RAM settings to EEPROM. It is important to note that the data saved depends on your selection:

Service Save: Save all data register contents to EEPROM
User Save: Save user data register contents to factory mode table
Color Save: Save color data register contents to color table
Exit

Restore (ALT+R)

Select this function to restore EEPROM settings to RAM.

Undo (ALT+U)

Select this function to undo changes you have made to monitor settings.

Table (ALT+T)

Display: Show factory and user mode table
Clear: Clear user mode table

deGauss (ALT+G)

Select this function to Degauss the monitor.

Dac (ALT+D)

Display DAC Data

rEfresh (ALT+E)

During a session, monitor settings can be changed through either this program or the monitor's front panel.

If you have changed monitor settings via the monitor's front panel, select this function to "update" the program's display to reflect the correct monitor settings.

File (ALT+F)

Save: Save settings to a file.
Restore: Restore settings from a file.
Print: Print the current settings to a printer.

Access (ALT+A)

Set your type of display
Set USER MODE On or Off
Save your settings to disk

Version (ALT+V)

eXit (ALT+X)

Exit to DOS

5-2-1 (b) Help for Setting Monitor Registers

Each register can be selected with the mouse or <up arrow> and <down arrow> keys. When the correct field is highlighted, press <Enter> or the <right arrow>. When a numerical value is highlighted you can press the <up arrow> to increment the value by one, or <down arrow> to decrement the value by one. To increase the rate of change, hold down the <shift> key while pressing the <up arrow> or <down arrow>. The right mouse button increases values while the left button decreases values. The mouse button can be used in conjunction with the <shift> keys to accelerate change. If the <ESCape> key is pressed while in a numeric value field, the value will be returned to its original value. To save your change and exit the field, press the <left arrow> key or click the mouse outside of the field.

5-2-1 (c) REGISTERS

=== CONTROL ====

AGEING

1 (ON) : Turn on to display a self raster when no syncs are present.

0 (OFF) : Display the "Check signal cable" message when no sync signals are present and the D-SUB connector is removed.

COLOR BAL

Range: 0 to 5

Index of factory color adjustments for color balance.

Note: MINFH : 640 x 480, 60 Hz
MAXFH : 1600 x 1200 or 1280 x 1024, 85 Hz
MINFV : 640 x 480, 60 Hz
MAXFV : 1600 x 1200 or 1280 x 1024, 85 Hz

= 107KHZ MODE ==

R CENT 107K
Range: -127 to +127
Moves the raster left and right. Adjust at MAXFH.

H LIN 107K
Range: -127 to +127
Controls the width of the right half of the picture relative to the width of the left half. Adjust at MAXFH.

V LINBAL 150Hz
Range: -127 to +127
It sets the height of the top half of the raster relative to the bottom half at MAXFV.

V LIN MAXFV
Range: -127 to +127
Vertical frequency

== G/D =======

H POSI
Range: -127 to +127
Moves the video left and right with respect to the raster.

V POSI
Range: -127 to +127
User adjustment to move the raster up and down.

H SIZE
Range: -127 to +127
Sets the width at the top of the raster.

V SIZE
Range: -127 to +127
Sets the raster height.

PIN
Range: -127 to +127
Sets the width at the center of the raster.

TRAP
Range: -127 to +127
Sets the width at the bottom of the raster.

PARA
Range: -127 to +127
Tilts all vertical lines left or right to balance the keystone.

PINBAL
Range: -127 to +127
Moves the horizontal center left or right to balance the pin.

TILT
Range: -127 to +127
Rotates the entire raster.

== 30KHZ MODE ==

R_CENT 31K
Range: -127 to +127
Moves the raster left and right. Adjust at MINFH.

H LIN 31K
Range: -127 to +127
Controls the width of the right half of the picture relative to the width of the left half. Adjust at MINFH.

V LINBAL 60Hz
Range: -127 to +127
It sets the height of the top half of the raster relative to the bottom half at MINFV.

V LIN MINFV
Range: -127 to 127

== static cg ===

h rb con dc
Range: -127 to 127
Horizontal red-blue convergence

v rb conv dc
Range: -127 to 127
Vertical red-blue convergence

= SIZE CONTROL =

HSIZE MAX H832
Range: -127 to 127

VSIZE MAX V350
Range: -127 to 127

== MICOM INIT ==

SIDE FOC
This is for information only and is not adjustable. Verify that the value is correct by comparing that the value in the column to the right corresponds to the appropriate horizontal frequency range. On this sample screen the H_freq of 64.4 (shown along the bottom of the screen) falls within the range <61-76KHZ> and has the value of -22 as correctly shown next to SIDE FOC.

= BACK RASTER ==

B CUTOFF MAX

Range: 0 to 255
Adjusts the value of the blue cutoff at maximum brightness.

R CUTOFF MAX

Range: 0 to 255
Adjusts the value of the red cutoff at maximum brightness.

G CUTOFF MAX

Range: 0 to 255
Adjusts the value of the green cutoff at maximum brightness.

=SQUARE MAX=

B CONT MAX

Range: 0 to 255
Adjusts the value of the blue drive at maximum contrast.

R CONT MAX

Range: 0 to 255
Adjusts the value of the red drive at maximum contrast.

G CONT MAX

rnages from 0 to 255.
Adjusts the value of the green drive at maximum contrast.

ALL MAX 45FT

Range: 0 to 255
Adjusts the value of the contrast output when CONT is maximum and BRT is maximum.

= SQ. CONT 5FT =

CONTRAST

Range: 0 to 255
Adjusts the video contrast.

BCONTMIN

Range: 0 to 255
Adjusts the value of the blue drive at minimum contrast.

RCONTMIN

Range: 0 tp 255
Adjusts the value of the red drive at minimum contrast.

GCONTMIN

Range: 0 to 255
Adjusts the value of the green drive at minimum cotnrast.

= SQ. BRT MIN =

BRIGHTNESS

Range: 0 to 255
Adjusts the video brightness.

CNTMAX/BRTMIN

Range: 0 to 255
Adjusts the value of the contrast output when CONT is maximum and BRT is minimum.

B CUTOFF MIN

Range: 0 to 255
Adjusts the value of the blue cutoff at minimum brightness.

R CUTOFF MIN

Range: 0 to 255
Adjusts the value of the red cutoff at minimum brightness.

G CUTOFF MIN

Range: 0 to 255
Adjusts the value of the green cutoff at minimum brightness.

= F-WHITE MAX ==

ABL CONT LIMIT

Range: 0 to 255
ABL Limit at full white, max brightness and contrast.

== CONTROL ====

F COLOR BAL

Range: 0 to 2
Selects one of three color sets in user mode.

COL TEMP

Range: 50 to 93
Selects the color temperature for white video when the SAT_REG is 0.

CT CAL

Range: 50 to 93
Calibrates the continuous color temperature selection.

== COMPARE =====

To correctly set the white balance for this monitor, set the parameters in the order shown and to the values shown in the list below.

PHASE LOCKED

Indicates that the micom is fucntioning properly.

5-3 Display Control Adjustments

5-3-1 Centering

Centering means to position the center point of the display in the middle of the display area. Horizontal size and position and vertical size and position control the centering of the display.

For each mode, adjust the horizontal size and vertical size to their optimal settings:
390 mm (H) x 292.5 mm (V).

Adjust the horizontal position and vertical position to ≤ 4.0 mm of the center point of the screen.

$|A\text{-}B| \le 4.0$ mm.
$|C\text{-}D| \le 4.0$ mm.

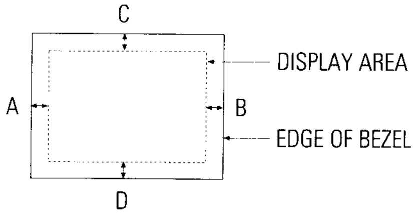


Figure 5-4. Centering

5-3-1 (a) HORIZONTAL SIZE ADJUSTMENT

CONDITIONS

Scanning frequency:	Adjust for each mode listed in Table 2-1.
Display image:	Crosshatch pattern

Adjust the **H SIZE** setting of the display pattern to 390 mm. (Tolerance: ± 3 mm.)

5-3-1 (b) VERTICAL SIZE ADJUSTMENT

CONDITIONS

Scanning frequency:	Adjust for each mode listed in Table 2-1.
Display image:	Crosshatch pattern

Adjust the **V SIZE** setting of the display pattern to 292.5 mm. (Tolerance: ± 3 mm.)

5-3-1 (c) HORIZONTAL POSITION ADJUSTMENT

CONDITIONS

Scanning frequency:	Adjust for each mode listed in Table 2-1.
Display image:	Crosshatch pattern

Adjust the **H POSI** setting to center the horizontal image on the raster.

5-3-1 (d) VERTICAL POSITION ADJUSTMENT

CONDITIONS

Scanning frequency:	Adjust for each mode listed in Table 2-1.
Display image:	Crosshatch pattern

Adjust the **V POSI** setting to center the vertical image on the raster.

5-3-2 Linearity

Linearity affects the symmetry of images as they appear on the screen. Unless each row or column of blocks in a crosshatch pattern is of equal size, or within the tolerances shown in Tables 5-2 and 5-3, an image appears distorted, elongated or squashed.

Table 5-2. Factory Preset Modes Linearity

	Standard Modes Linearity	
	Each block (10 %)	Difference between adjacent blocks (4 %)
4 : 3	Horizontal: 21.9~26.8 Vertical : 21.9~26.8	Horizontal: Less than 0.99 mm Vertical : Less than 0.99 mm
5 : 4	Horizontal: 20.6~25.2 Vertical : 21.9~26.8	Horizontal: Less than 0.92 mm Vertical : Less than 0.99 mm

Table 5-3. Other Modes Linearity: VGA, SVGA, XGA, MAC, etc.

	Supported Timing Mode	
	Each block (14 %)	Difference between adjacent blocks (5 %)
4 : 3	Horizontal: 20.9~27.8 Vertical : 20.9~27.8	Horizontal: Less than 1.22 mm Vertical : Less than 1.22 mm
5 : 4	Horizontal: 19.7~26.1 Vertical : 20.9~27.8	Horizontal: Less than 1.14 mm Vertical : Less than 1.22 mm

5-3-2 (a) HIGH FREQUENCY HORIZONTAL LINEARITY ADJUSTMENT

CONDITIONS

Scanning frequency:	106 kHz/85 Hz or 79.9 kHz/75Hz
Display image:	Crosshatch pattern

To adjust the Horizontal Linearity, refer to Tables 5-2 and 5-3 for the tolerance range.

Adjust the **H_LIN 107K** setting until the horizontal linearity is optimized.

5-3-2 (b) HIGH FREQUENCY VERTICAL LINEARITY ADJUSTMENT

CONDITIONS

Scanning frequency:	106 kHz/85 Hz or 79.9 kHz/75Hz
Display image:	Crosshatch pattern

To adjust the Vertical Linearity, refer to Tables 5-2 and 5-3 for the tolerance range.

Adjust the **V LINBAL 150 Hz** setting until the vertical linearity is optimized.

Note: After pressing the keys **ALT-S** and using the arrow keys, select **SERVICE SAVE** and press **ENTER.**

5-3-2 (c) LOW FREQUENCY HORIZONTAL LINEARITY ADJUSTMENT

CONDITIONS

Scanning frequency:	31.4 kHz/60 Hz (640 x 480)
Display image:	Crosshatch pattern

To adjust the Horizontal Linearity, refer to Tables 5-2 and 5-3 for the tolerance range.

Adjust the **H_LIN 31K** setting until the horizontal linearity is optimized.

5-3-2 (d) LOW FREQUENCY VERTICAL LINEARITY ADJUSTMENT

CONDITIONS

Scanning frequency:	31.4 kHz/60 Hz (640 x 480)
Display image:	Crosshatch pattern

To adjust the Vertical Linearity, refer to Tables 5-2 and 5-3 for the tolerance range.

Adjust the **V LINBAL 60 Hz** setting until the vertical linearity is optimized.

Note: After pressing the keys **ALT-S** and using the arrow keys, select **SERVICE SAVE** and press **ENTER.**

5-3-3 Trapezoid Adjustment

CONDITIONS

Scanning frequency:	Adjust for each mode listed in Table 2-1.
Display image:	Crosshatch pattern

Adjust the **TRAP** setting to make the image area rectangular.

$|A - B| < 4$ mm

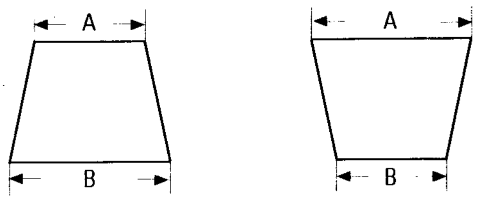


Figure 5-5. Trapezoid

5-3-4 Pinbalance Adjustment

CONDITIONS

Scanning frequency:	Adjust for each mode listed in Table 2-1.
Display image:	Crosshatch pattern

$|D1|, |D2| \leq 2.0$ mm

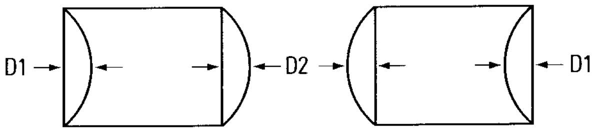


Figure 5-6. Pinbalance

Adjust the **PINBAL** setting to optimize the image.

5-3-5 Parallelogram Adjustment

CONDITIONS

Scanning Frequency:	Adjust for each mode listed in Table 2-1.
Display image:	Crosshatch pattern

Adjust the **PARA** setting to make the image area rectangular.

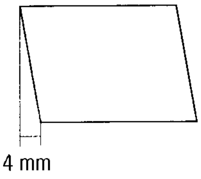


Figure 5-7. Parallelogram

5-3-6 Side Pincushion Adjustment

CONDITIONS

Scanning frequency:	Adjust for each mode listed in Table 2-1.
Display image:	Crosshatch pattern
Brightness:	Cut-off
Contrast:	Maximum

Adjust the **PIN** setting to straighten the sides of the image area.

I C1 I, I C2 I ≤ 2.0 mm, I D1 I, I D2 I ≤ 2.0 mm.

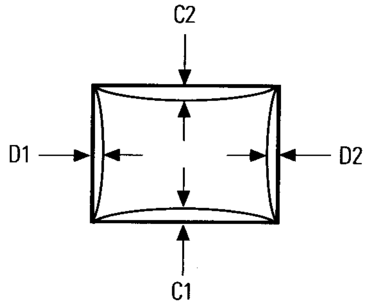


Figure 5-8. Pincushion

5-3-7 Tilt Adjustment

CONDITIONS

Scanning Frequency:	Adjust for each mode listed in Table 2-1.
Display image:	Crosshatch pattern
Brightness:	Cut-off
Contrast:	Maximum

Adjust the **TILT** setting to correct the tilt of the display.

Note: After pressing the keys **ALT-S** and using the arrow keys, select **SERVICE SAVE** and press **ENTER.**

5-3-8 Degauss

No adjustments are available for the degaussing circuit. The degaussing circuit can effectively function only once per 30 minutes.

5-3-9 To Delete the User Mode Data

To delete the adjustment data from the user modes, press the **ALT-T** keys and use the arrow keys to select **CLEAR** and press **ENTER.**

5-3-10 Save the Data

After pressing the keys **ALT-S** and using the arrow keys, select **USER SAVE** and press **ENTER.** Then, press the **ALT-S** keys, select **SERVICE SAVE** and press **ENTER.**

5-4 Color Adjustments (Color Save)

5-4-1 Color Coordinates (Temperature)

Color temperature is a measurement of the radiant energy transmitted by a color. For computer monitors, the color temperature refers to the radiant energy transmitted by white. Color coordinates are the X and Y coordinates on the chromaticity diagram of wavelengths for the visible spectrum.

CONDITIONS

Measurement instrument: Color analyzer (CHROMA2250 recommended)
Scanning frequency: Adjust for each mode listed in Table 2-1.
Display Size : 390 (H) 292.5 (V) [min.]
Display image: White flat field at center of display area
Brightness: Maximum
Contrast: Maximum

PROCEDURE

Use the directions in sections 5-4-2 through 5-4-4 to adjust the color coordinates for:

9300K to x = 0.283 ± 0.02, y = 0.298 ± 0.02
7300K to x = 0.302 ± 0.02, y = 0.318 ± 0.02
6500K to x = 0.313 ± 0.02, y = 0.329 ± 0.02
5000K to x = 0.346 ± 0.02, y = 0.359 ± 0.02

5-4-2 White Balance and Brightness Adjustments

CONDITIONS

Scanning frequency: Adjust for each mode in listed Table 2-1.
Brightness: Maximum
Contrast: Maximum

PROCEDURE

1. A separate signal generator is essential for making white balance and brightness adjustments on this monitor. Connect the signal generator cable as shown in Figure 5-1 on the previous page.
2. Press **ALT-E** to refresh the current data from the monitor. The following controls should have the values as listed below:

CT CAL	93
F COLOR BAL	0
CONTRAST	255
BRIGHTNESS	255
CONTMAX/BRTMIN	240

   If **F COLOR BAL** is "1", you must adjust **F COLOR BAL** to "0" and press **ALT-E** again to refresh the current data from the monitor. If the other controls do not have the same value as above, adjust the controls and start the next precedure.

3. CONDITIONS

   Display image: Raster pattern
   Contrast: Maximum
   Brightness: Maximum

   At 5000K color temperature, adjust the **R, G, B CUT MAX** to set the "x" coordinate to 0.346 ± 0.02 and the "y" coordinate to 0.359 ± 0.02. At the same time, the brightness of Back Raster must be 0.5 to 0.6 ft/L.

4. CONDITIONS

   Display image: Small square box pattern
   Contrast: Maximum
   Brightness: Maximum

   Adjust the **R, G, B CONT MAX** to set the "x" coordinate to 0.346 ± 0.02 and the "y" coordinate to 0.359 ± 0.02. Do not adjust **R CONT MAX** to over 185.

5. Adjust **ALL MAX 45FT** to set the brightness to 40 ft/L and confirm the "x" and "y" coordinates. If the white coordinates are not as specified, repeat from step 4, above.
6. Adjust **CONTRAST** to set the brightness to 5 ft/L. Adjust the **R, G, B CONT MIN** to set the "x" coordinate to 0.346 ± 0.02 and the "y" coordinate to 0.359 ± 0.02.
7. Adjust **CONTRAST** to change the brightness from 5 ft/L to 3 ft/L and confirm the "x" coordinate is still 0.346 ± 0.02 and "y" is still 0.359 ± 0.02. If the white coordinates are not as specified, repeat from step 6, above.
8. Change the **CONTRAST** from **MIN** to **MAX** and **BRIGHTNESS** from **MAX** to **MIN**. Confirm **CONTMAX/BRTMIN** is 240. Adjust **B CUTOFF MIN** to the value (**B CUTOFF MAX'S** value -20) and adjust **R, G CUTOFF MIN** to set the "x" coordinate to 0.346 ± 0.02 and the "y" coordinate to 0.359 ± 0.02.

9. Change the **BRIGHTNESS** from **MIN** to **MAX.** Comfirm the "x" coordinate is still 0.346 ± 0.02 and the "y" coordinates is still 0.359 ± 0.02. If the white coordinates are not as specified, repeat from steps 4 to 7, above.
10. Press **ALT-S** and select **COLOR SAVE,** then press **ENTER.**
11. Change the **F COLOR BAL** from **0** to **1,** then press **ALT-E** to refresh the data display.
12. Set the color temperature to 9300K and repeat steps 4 through 11 using the color coordinates and settings as below:

color coordinates:	X = 0.283 ± 0.02, y = 0.298 ± 0.02
CONTMAX/BRTMIN:	230

13. Press **ALT-S** and select **COLOR SAVE,** then press **ENTER.**
14. Set **COLOR TEMP** to 73 and adjust **CT CAL** until x = 0.302 and y = 0.318.
15. Press **ALT-S** and select **SERVICE SAVE,** then press **ENTER.**
16. CONDITIONS

Display image:	Full white pattern
Contrast:	Maximum
Brightness:	Maximum

Adjust the **ABL VR** (VR501) to set the brightness to 33 ± 1 ft/L.

Note: **ABL VR** must be adjusted at 9300K color temperature.

5-4-3 Focus Adjustment

CONDITIONS

Scanning frequency:	91 kHz/85 Hz
Display image:	"H" character pattern
Brightness:	Cutoff point
Contrast:	Maximum

PROCEDURE

1. Adjust the **Focus VR** on the FBT so that the focus is optimized over the entire screen. Adjust horizontally before you adjust vertically.

5-4-4 Color Purity Adjustment

Color purity is the absence of undesired color. Conspicuous mislanding (unexpected color in a uniform field) within the display area shall not be visible at a distance of 50 cm from the CRT surface.

CONDITIONS

Orientation:	Monitor facing east
Scanning frequency:	Adjust for each mode listed in Table 2-1.
Display image:	White flat field
Luminance:	Cutoff point at the center of the display area

Note: Color purity adjustments should only be attempted by qualified personnel.

PROCEDURE

For trained and experienced service technicians only.

Use the following procedure to correct minor color purity problems:

1. Make sure the display is not affected by external magnetic fields.
2. Very carefully break the glue seal between the 2-pole purity convergence magnets (PCM), the band and the spacer (see Figure 5-12).
3. Make sure the spacing between the PCM assembly and the CRT stem is 29 mm ± 1 mm.
4. Display a green pattern over the entire display area.
5. Adjust the purity magnet rings on the PCM assembly to display a pure green pattern. (Optimum setting: x = 0.295 ± 0.015, y = 0.594 ± 0.015)
6. Repeat steps 4 and 5 using a red pattern and then again using a blue pattern.

Table 5-4. Color Purity Tolerances

Red:	x = 0.640 ± 0.015	y = 0.323 ± 0.015
Green:	x = 0.295 ± 0.015	y = 0.594 ± 0.015
Blue:	x = 0.142 ± 0.015	y = 0.066 ± 0.015

(For 9300K color adjustment: x = 0.283 ± 0.02, y = 0.298 ± 0.02)

7. When you have the PCMs properly adjusted, carefully glue them together to prevent their movement during shipping.

5-5 Convergence Adjustments

Misconvergence occurs when one or more of the electron beams in a multibeam CRT fail to meet the other beams at a specified point.

Table 5-5. Misconvergence Tolerances

Position	Error in mm	CRT Dot Pitch	REMARK
Center (A)	0.35	0.25	< 1280 x 1024
	0.25		≥ 1280 x 1024
Edge (B)	0.45	0.25	< 1280 x 1024
	0.35		≥ 1280 x 1024

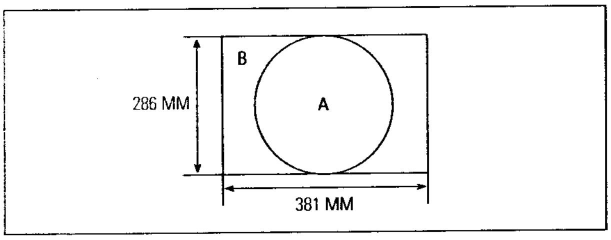
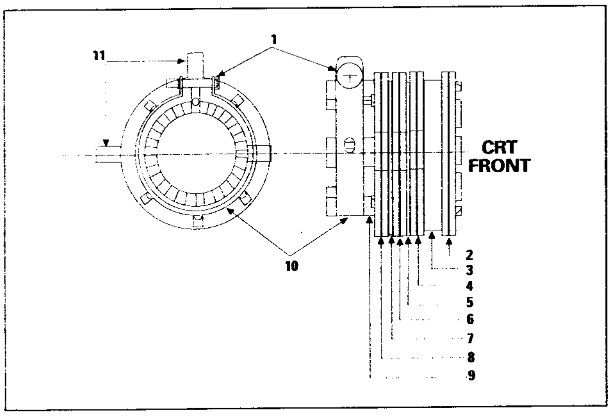


Figure 5-11. Convergence Measurement Areas



Matsushita CRT			
1 Setup Bolt	2 Bow Magnet	3 Band	4 2-Pole Magnet
5 Spacer	6 4-Pole Magnet	7 Spacer	8 6-Pole Magnet
9 Holder	10 Band	11 Tabs	

Figure 5-12. Matsushita Magnet Configuration

5-5-1 Static (Center) Convergence

Static convergence involves alignment of the red, blue and green lines in the center area of the display. See "Dynamic Convergence" for alignment of the color fields around the edges of the display.

CONDITIONS

Orientation:	Monitor facing east
Warm-up:	30 minutes
Display image:	Crosshatch pattern
Tolerances:	See Table 5-5

PROCEDURE

As shown in Figure 5-12, the CRT used in these monitors has the same magnet configuration as shown in Table 5-6 below.

Table 5-6. Magnet Order

CRT Manufacturer	Magnet Order from Front of CRT
Matsushita	Convergence bow, 2-pole, 4-pole, 6-pole

Use the following steps to correct any static misconvergence:

1. Make sure the display is not affected by external magnetic fields.
2. Locate the pair of 4-pole magnet rings.
3. Unlock the rings and rotate the individual rings (change the spacing between tabs) to converge the vertical red and blue lines.
4. Rotate the pair of rings (maintaining the spacing between tabs) to converge the horizontal red and blue lines.

5. After completing the red and blue center convergence adjustment, locate the pair of 6-pole magnet rings.
6. Rotate the individual rings (change the spacing between tabs) to converge the vertical red and blue (magenta) and green lines.
7. Rotate the pair of rings (maintaining the spacing between tabs) to converge the horizontal red and blue (magenta) and green lines. Don't rotate the 2-pole magnets as they adjust for color purity.
8. Mark the correct position for the magnets and apply a small line of glue to hold the magnets in place. Lock the rings in place.

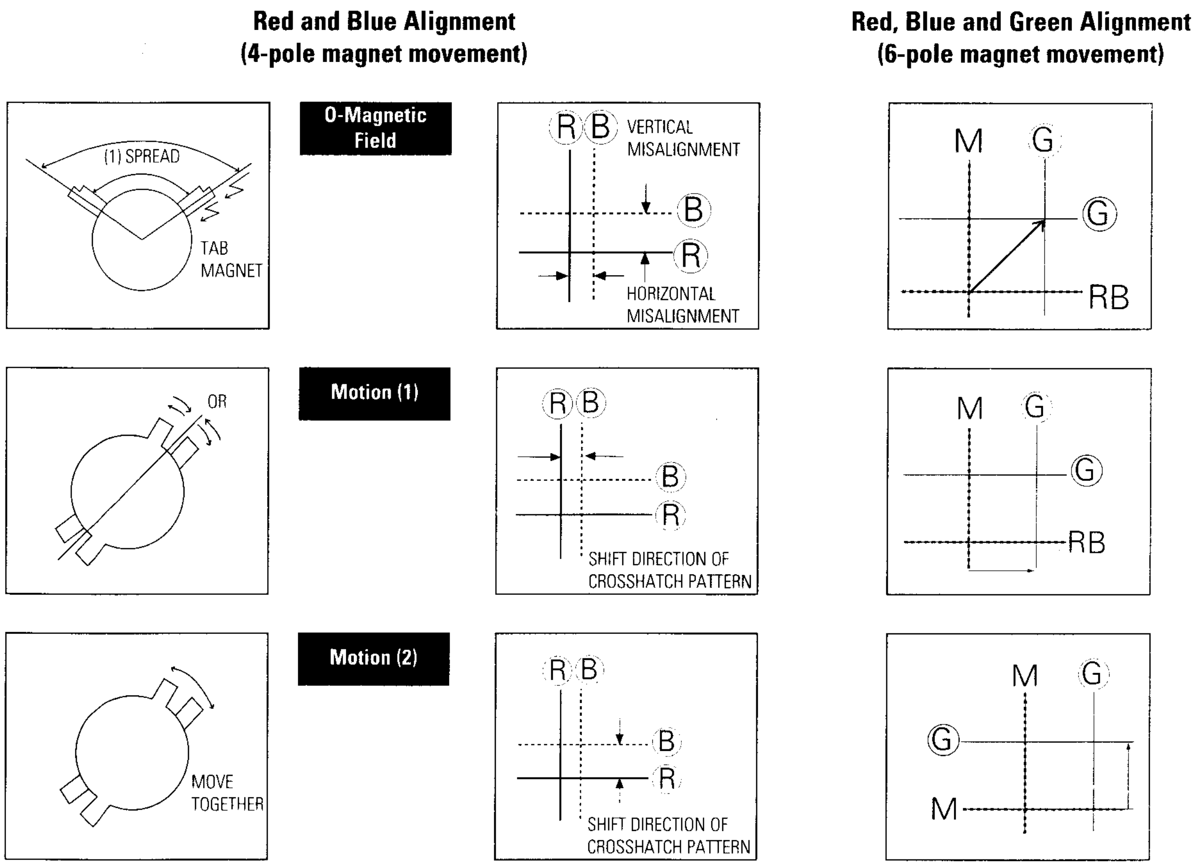
5-5-2 Dynamic (Edge) Convergence

Use the following procedure to correct minor dynamic (edge) misconvergence. If, after using this procedure, dynamic misconvergence around the periphery of the display area is still greater than the tolerance, contact the Regional After Service Center for possible CRT replacement.

1. Make sure the display is not affected by external magnetic fields.
2. Make sure the static convergence is properly adjusted.
3. Strategically place small rubber magnets on the back of the CRT to correct the misconvergence. Be careful not to remove the paper protecting the adhesive on the magnets until you are satisfied with their placement and the dynamic convergence.
4. When you are satisfied with the convergence around the edge of the CRT, permanently glue the magnets to the back of the CRT.

WARNING: Do not remove or change the position of the factory installed wedges. These wedges were installed by the CRT manufacturer and are properly placed for this CRT; their removal may result in damage to the CRT.

Figure 5-13. Magnet Movements



Red and Blue Alignment (4-pole magnet movement)

Red, Blue and Green Alignment (6-pole magnet movement)

(1) SPREAD
TAB
MAGNET
0-Magnetic Field
R B
VERTICAL MISALIGNMENT
B
R
HORIZONTAL MISALIGNMENT
M G
G
RB
OR
Motion (1)
R B
B
R
SHIFT DIRECTION OF CROSSHATCH PATTERN
M G
G
RB
MOVE TOGETHER
Motion (2)
R B
B
R
SHIFT DIRECTION OF CROSSHATCH PATTERN
M G
G
M

5-5-3 Bow Convergence Adjustments

CONDITIONS

Orientation:	Monitor facing east.
Display Image:	Crosshatch pattern with mixed RGB colors.
Required tools:	Flathead (–) screwdriver, 1.5 mm Philips (+) screwdriver, 1.5 mm Hexkey, 2.5 mm

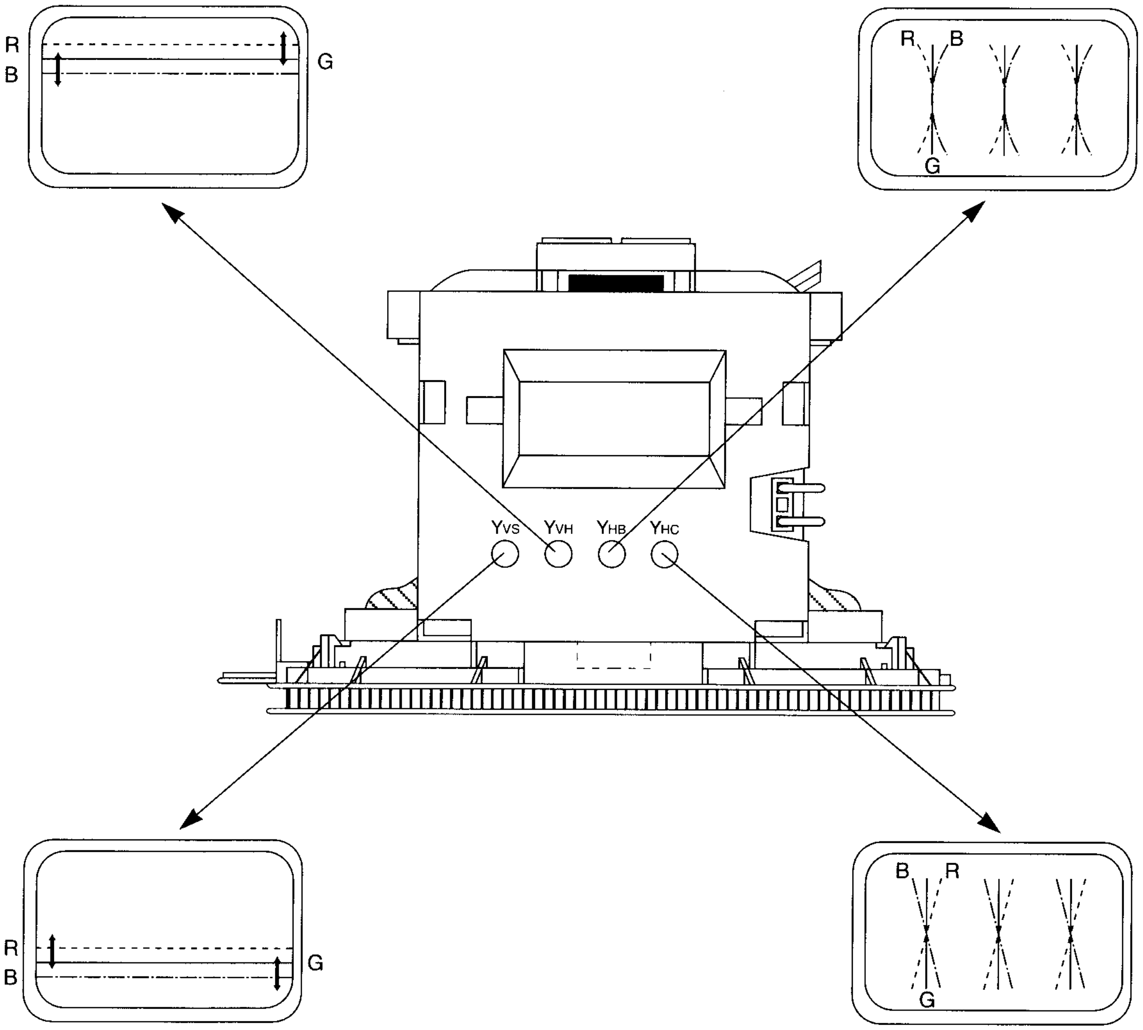
PROCEDURE

Bow convergence adjustments are not available for the CRTs used in the SyncMaster 1000p (CGX1609L) monitor. While all CRTs have bow convergence magnets, they are sealed in the CRT factory and are not user or service technician adjustable. Do not touch these magnets (see Figure 5-12). If bow convergence adjustment is out of alignment, replace the CRT.

Bow misconvergence should not exceed the values listed in Table 5-5: Misconvergence Tolerances.

5-5-4 Balance Convergence Adjustments

Balance Convergence involves alignment of red and blue lines when they are misaligned at one end more so than at the other end. The Deflection Yoke holds the balance coils which can correct balance misconvergences.



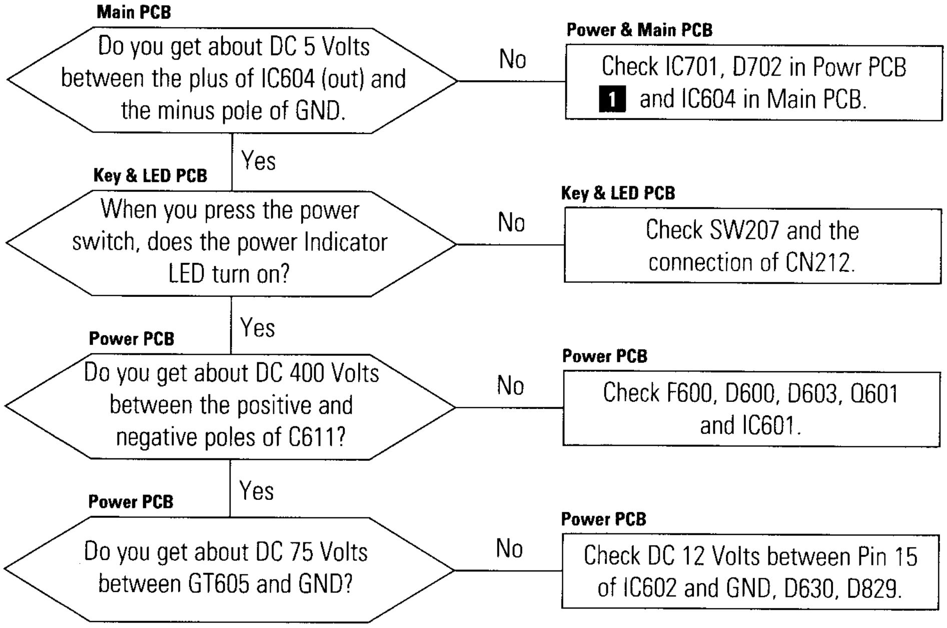
6 Troubleshooting

Notes: 1. If a picture does not appear, fully rotate the brightness and contrast controls clockwise and reinspect.

2. Check the following circuits.

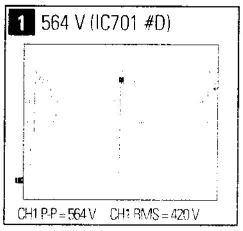
- No raster appears: Power circuit, Horizontal output circuit, H/V control circuit, and H/V output circuit.
- High voltage develops but no raster appears: Video output circuits.
- High voltage does not develop: Horizontal output circuits.

6-1 No Power

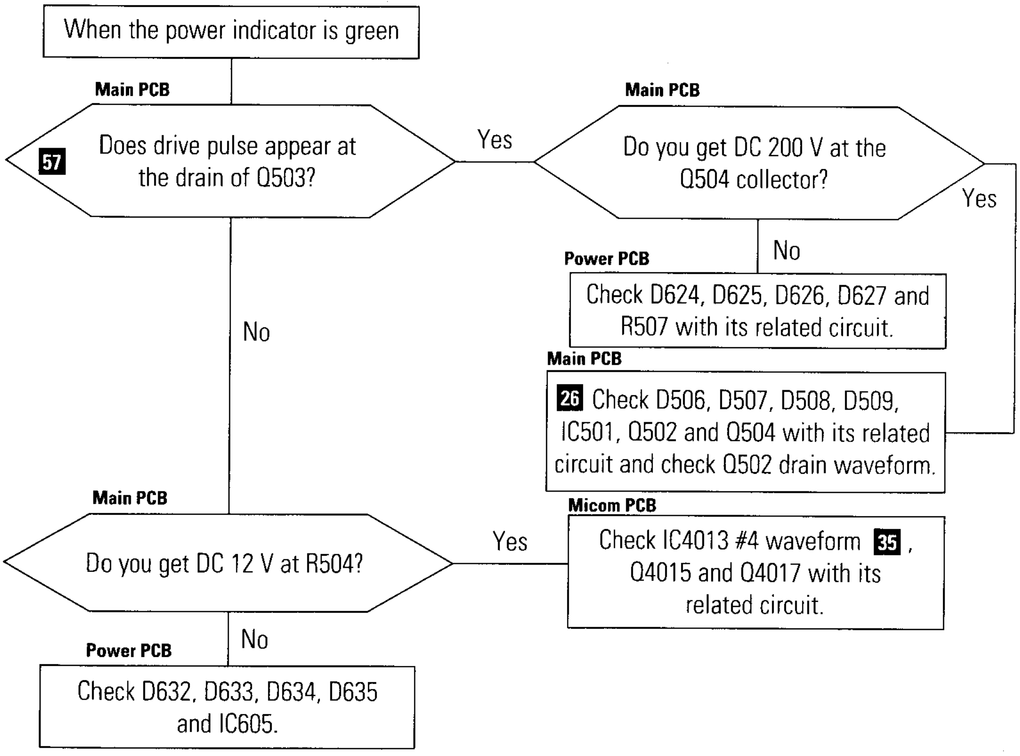


Main PCB
Do you get about DC 5 Volts between the plus of IC604 (out) and the minus pole of GND.
No
Power & Main PCB
Check IC701, D702 in Powr PCB 1 and IC604 in Main PCB.
Yes
Key & LED PCB
When you press the power switch, does the power Indicator LED turn on?
No
Key & LED PCB
Check SW207 and the connection of CN212.
Yes
Power PCB
Do you get about DC 400 Volts between the positive and negative poles of C611?
No
Power PCB
Check F600, D600, D603, Q601 and IC601.
Yes
Power PCB
Do you get about DC 75 Volts between GT605 and GND?
No
Power PCB
Check DC 12 Volts between Pin 15 of IC602 and GND, D630, D829.

WAVEFORMS

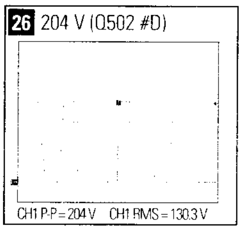

1 564 V (IC701 #D)

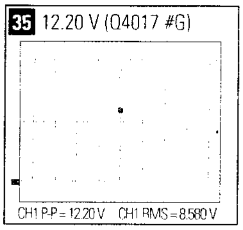
6-2 No Raster (1)

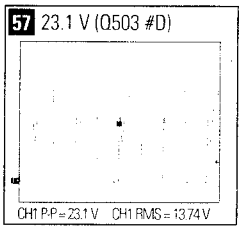


When the power indicator is green
Main PCB
57 Does drive pulse appear at the drain of Q503?
Yes
Main PCB
Do you get DC 200 V at the Q504 collector?
Yes
No
Power PCB
Check D624, D625, D626, D627 and R507 with its related circuit.
Main PCB
26 Check D506, D507, D508, D509, IC501, Q502 and Q504 with its related circuit and check Q502 drain waveform.
No
Main PCB
Do you get DC 12 V at R504?
Yes
Micom PCB
Check IC4013 #4 waveform 35, Q4015 and Q4017 with its related circuit.
No
Power PCB
Check D632, D633, D634, D635 and IC605.

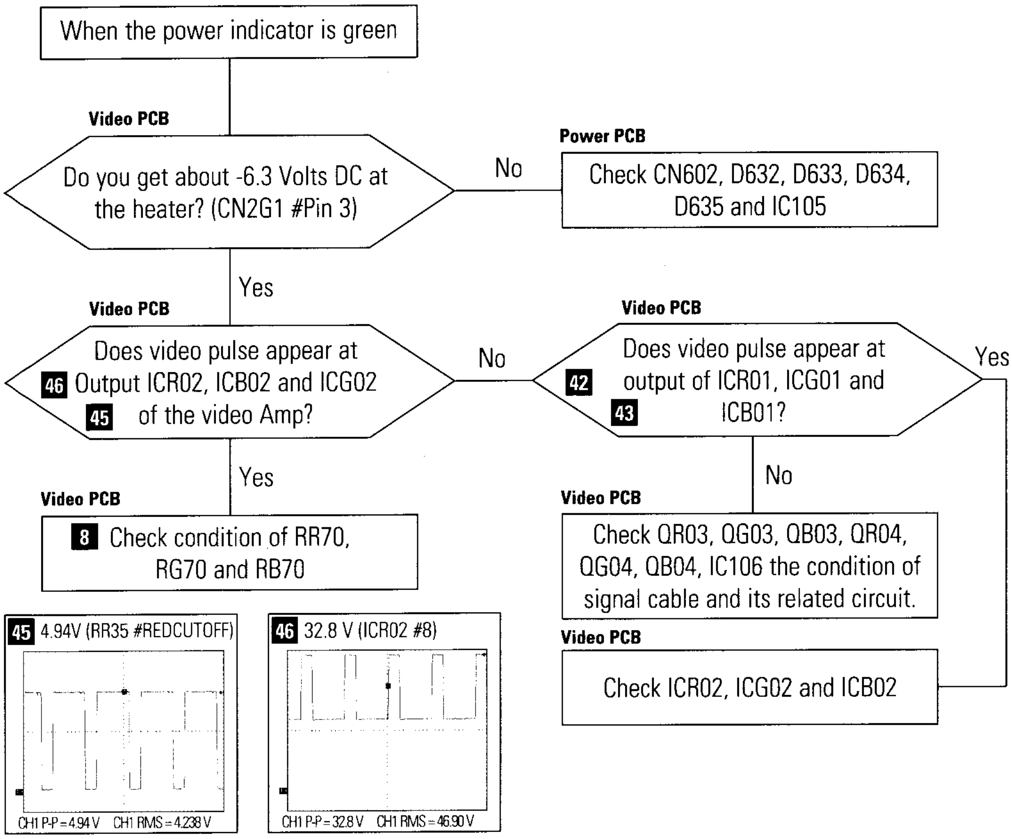
WAVEFORMS


26 204 V (Q502 #D)


35 12.20 V (Q4017 #G)

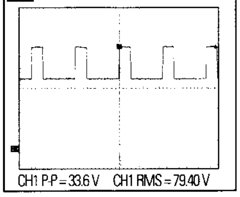

57 23.1 V (Q503 #D)

6-3 No Raster (2)

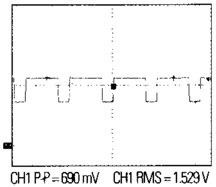

When the power indicator is green
Video PCB
Do you get about -6.3 Volts DC at the heater? (CN2G1 #Pin 3)
No
Power PCB
Check CN602, D632, D633, D634, D635 and IC105
Yes
Video PCB
Does video pulse appear at 46 Output ICR02, ICB02 and ICG02 45 of the video Amp?
No
Video PCB
Does video pulse appear at 42 output of ICR01, ICG01 and 43 ICB01?
Yes
Yes
Video PCB
8 Check condition of RR70, RG70 and RB70
No
Video PCB
Check QR03, QG03, QB03, QR04, QG04, QB04, IC106 the condition of signal cable and its related circuit.
Video PCB
Check ICR02, ICG02 and ICB02
45 4.94V (RR35 #REDCUTOFF)
CH1 P-P=4.94V CH1 RMS=4.238V
46 32.8 V (ICR02 #8)
CH1 P-P=32.8V CH1 RMS=46.90V

WAVEFORMS

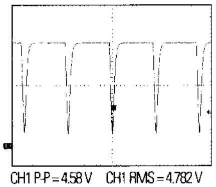
8 33.6 V (RR70 #RED)



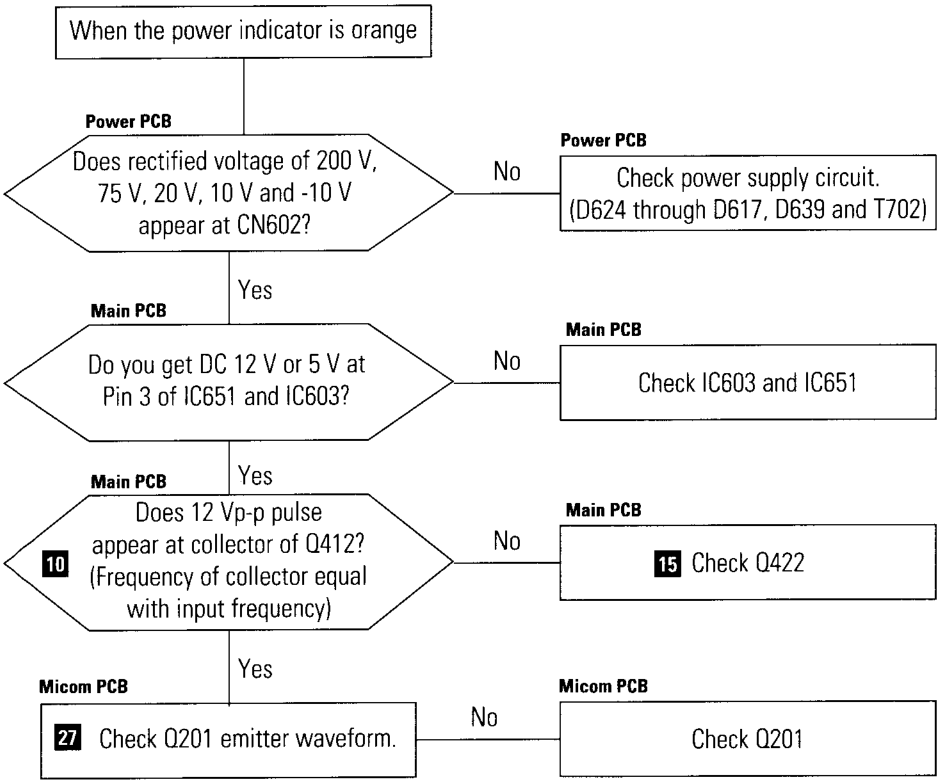
42 690mV(QR04,QG04,QB04 #E)



43 4.58 V (ICR01 #14)

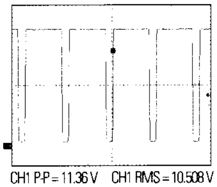


6-4 No Raster (3)

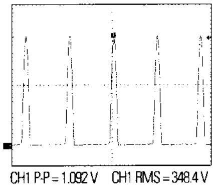

When the power indicator is orange
Power PCB
Does rectified voltage of 200 V, 75 V, 20 V, 10 V and -10 V appear at CN602?
No
Power PCB
Check power supply circuit. (D624 through D617, D639 and T702)
Yes
Main PCB
Do you get DC 12 V or 5 V at Pin 3 of IC651 and IC603?
No
Main PCB
Check IC603 and IC651
Yes
Main PCB
10 Does 12 Vp-p pulse appear at collector of Q412? (Frequency of collector equal with input frequency)
No
Main PCB
15 Check Q422
Yes
Micom PCB
27 Check Q201 emitter waveform.
No
Micom PCB
Check Q201

WAVEFORMS

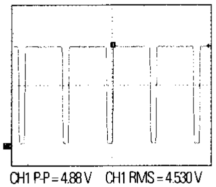
10 11.36 V (Q412 #C)



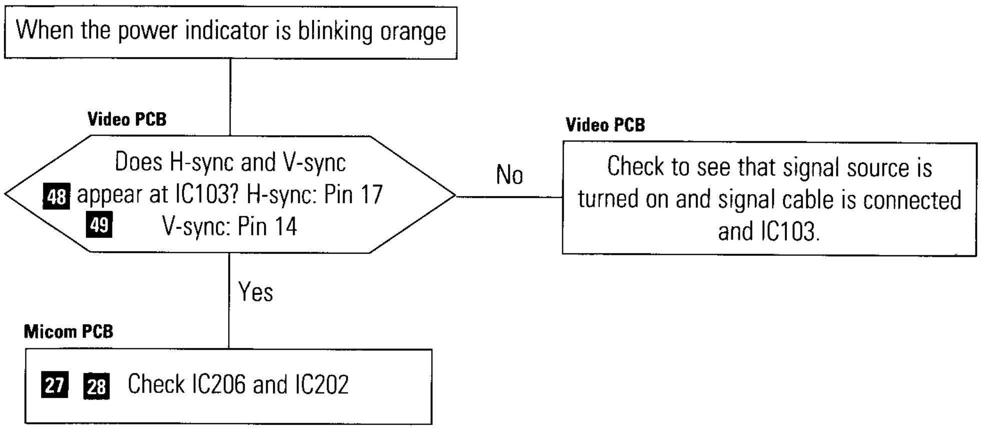
15 1.092 kV (Q422 #C)



27 4.88 V (IC202 #14)

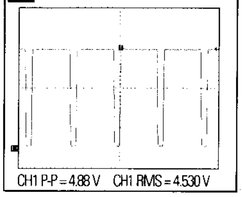


6-5 No Raster (4)

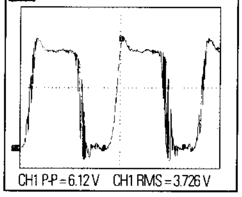

When the power indicator is blinking orange
Video PCB
Does H-sync and V-sync
48 appear at IC103? H-sync: Pin 17
49 V-sync: Pin 14
No
Video PCB
Check to see that signal source is turned on and signal cable is connected and IC103.
Yes
Micom PCB
27 28 Check IC206 and IC202

WAVEFORMS

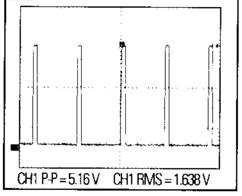
27 4.88 V (IC202 #14)



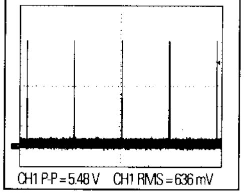
28 6.12 V (IC206 #6)



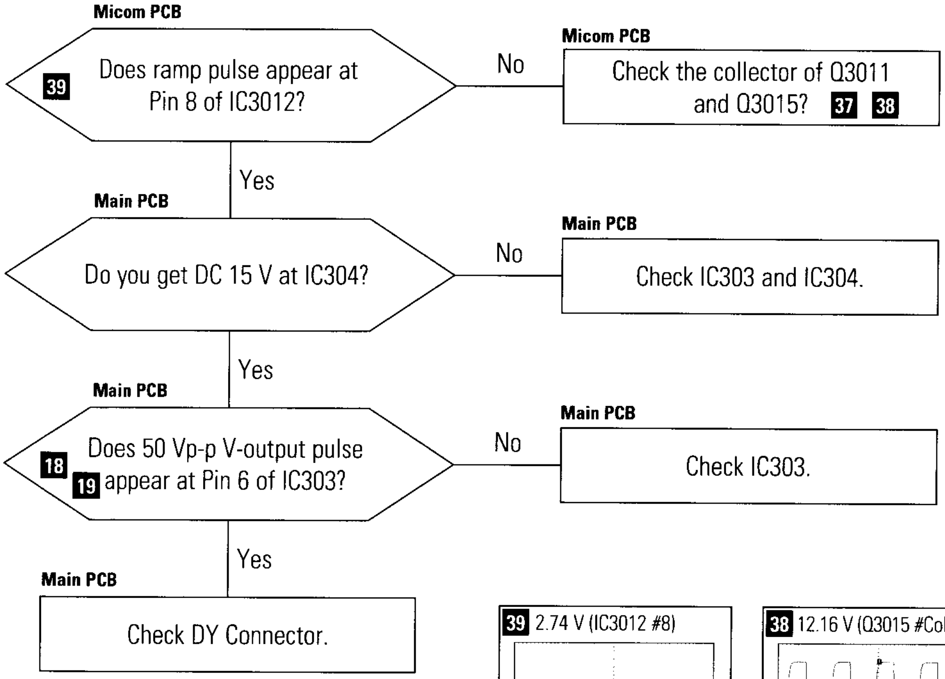
48 5.16 V (IC103 #17)



49 5.48 V (IC103 #14)

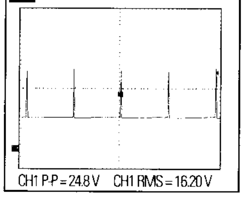


6-6 Horizontal Line on Raster

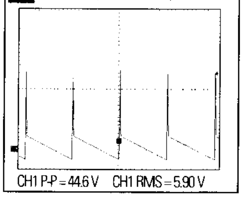

Micom PCB
39 Does ramp pulse appear at Pin 8 of IC3012?
No
Micom PCB
Check the collector of Q3011 and Q3015? 37 38
Yes
Main PCB
Do you get DC 15 V at IC304?
No
Main PCB
Check IC303 and IC304.
Yes
Main PCB
18 Does 50 Vp-p V-output pulse
19 appear at Pin 6 of IC303?
No
Main PCB
Check IC303.
Yes
Main PCB
Check DY Connector.

WAVEFORMS

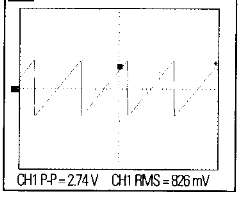
18 24.8 V (IC303 #6)



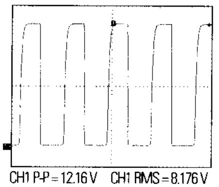
19 44.6 V (IC303 #5)



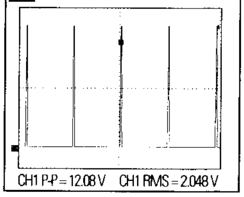
39 2.74 V (IC3012 #8)



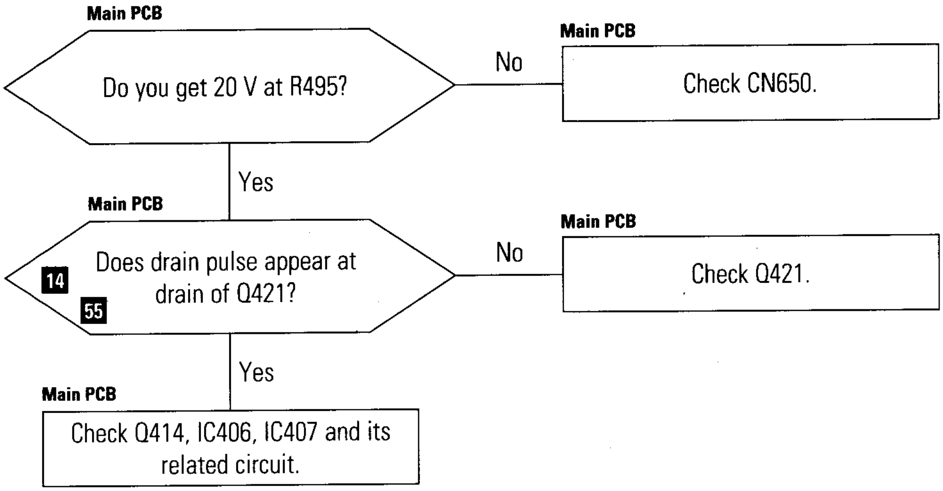
38 12.16 V (Q3015 #Collector)



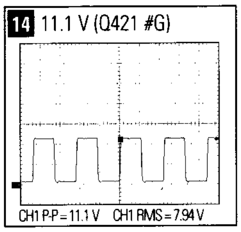
37 12.08 V (Q3011 #Collector)

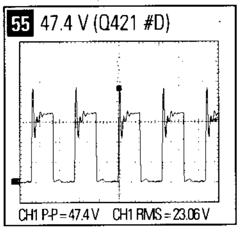


6-7 Vertical Line on Raster (1)

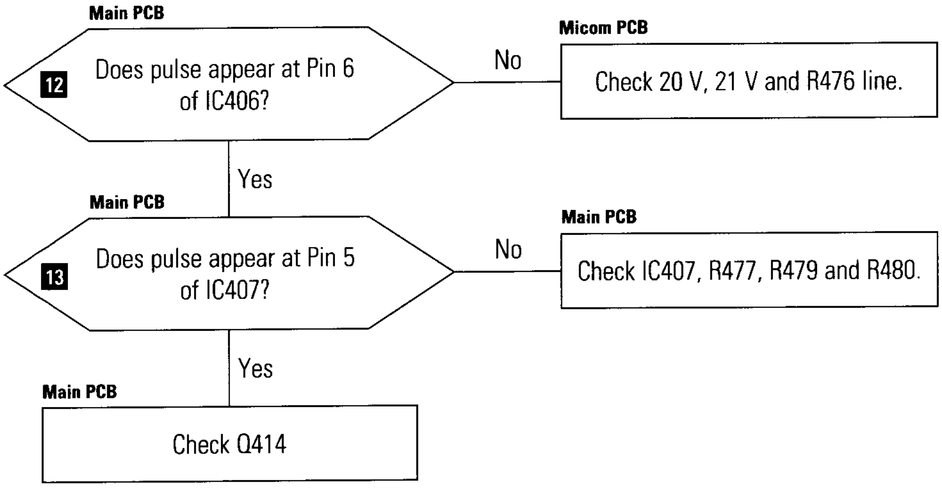

Main PCB
Do you get 20 V at R495?
No
Main PCB
Check CN650.
Yes
Main PCB
14
55
Does drain pulse appear at drain of Q421?
No
Main PCB
Check Q421.
Yes
Main PCB
Check Q414, IC406, IC407 and its related circuit.

WAVEFORMS

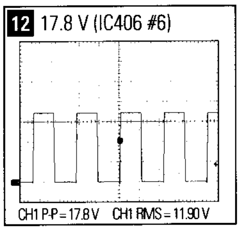

14 11.1 V (Q421 #G)

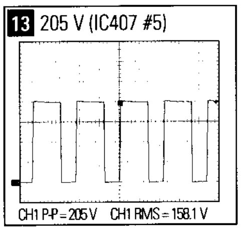

55 47.4 V (Q421 #D)

6-8 Vertical Line on Raster (2)

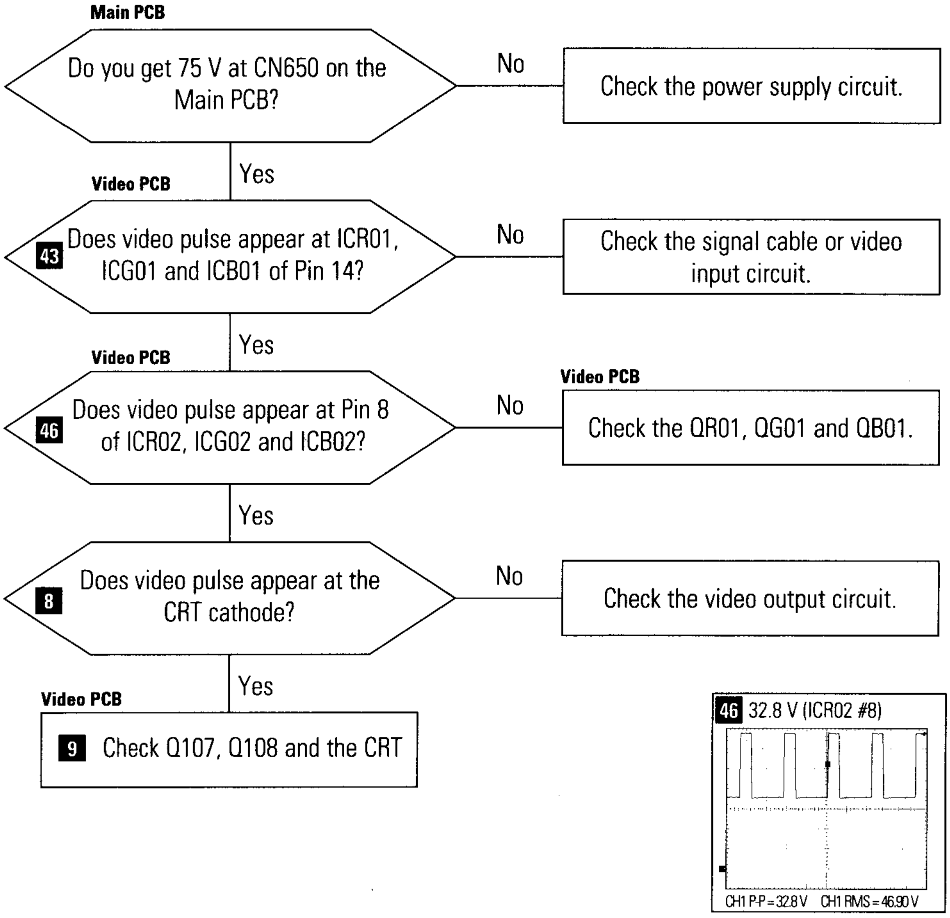

Main PCB
12
Does pulse appear at Pin 6 of IC406?
No
Micom PCB
Check 20 V, 21 V and R476 line.
Yes
Main PCB
13
Does pulse appear at Pin 5 of IC407?
No
Main PCB
Check IC407, R477, R479 and R480.
Yes
Main PCB
Check Q414

WAVEFORMS

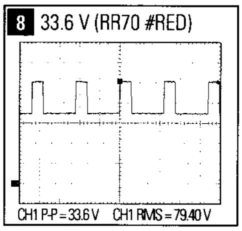

12 17.8 V (IC406 #6)

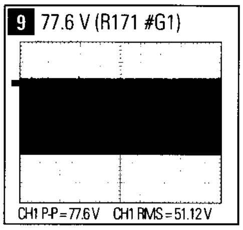

13 205 V (IC407 #5)

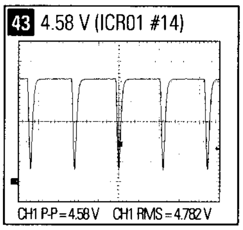
6-9 Raster Appears But Picture Does Not Show


Main PCB
Do you get 75 V at CN650 on the Main PCB?
No
Check the power supply circuit.
Yes
Video PCB
43 Does video pulse appear at ICR01, ICG01 and ICB01 of Pin 14?
No
Check the signal cable or video input circuit.
Yes
Video PCB
46 Does video pulse appear at Pin 8 of ICR02, ICG02 and ICB02?
No
Video PCB
Check the QR01, QG01 and QB01.
Yes
8 Does video pulse appear at the CRT cathode?
No
Check the video output circuit.
Yes
Video PCB
9 Check Q107, Q108 and the CRT
46 32.8 V (ICR02 #8)
CH1 P-P=32.8V CH1 RMS=46.90V

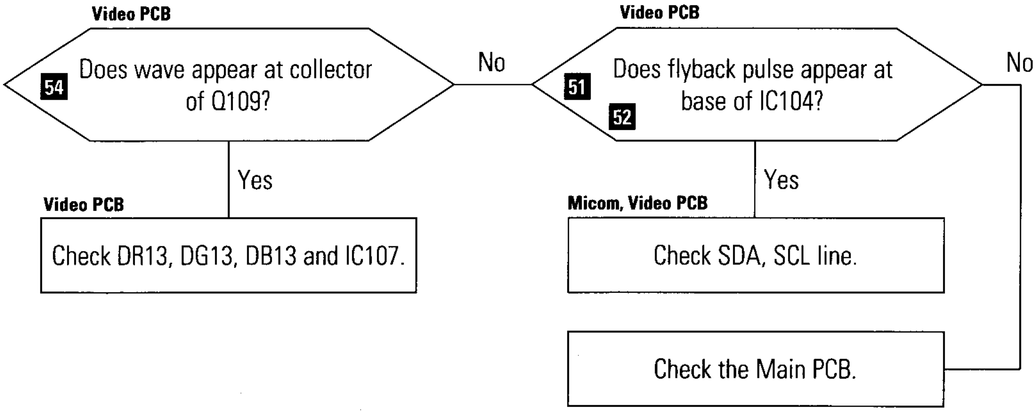
WAVEFORMS


8 33.6 V (RR70 #RED)

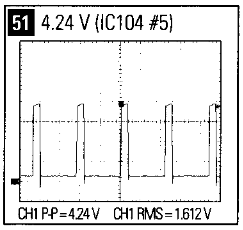

9 77.6 V (R171 #G1)

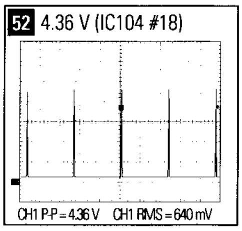

43 4.58 V (ICR01 #14)

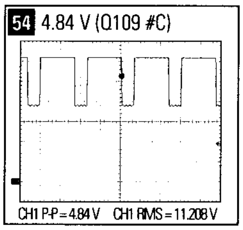
6-10 OSD Appears But OSD Does Not Blank


Video PCB
54 Does wave appear at collector of Q109?
No
Video PCB
51 52 Does flyback pulse appear at base of IC104?
No
Yes
Video PCB
Check DR13, DG13, DB13 and IC107.
Yes
Micom, Video PCB
Check SDA, SCL line.
Check the Main PCB.

WAVEFORMS


51 4.24 V (IC104 #5)


52 4.36 V (IC104 #18)


54 4.84 V (Q109 #C)

6-11 No S-Correction Value for Each Mode

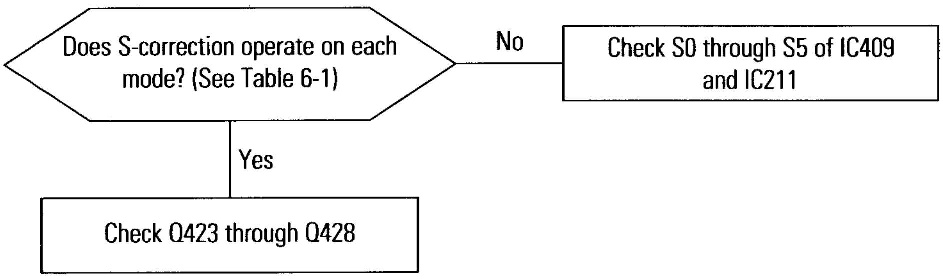
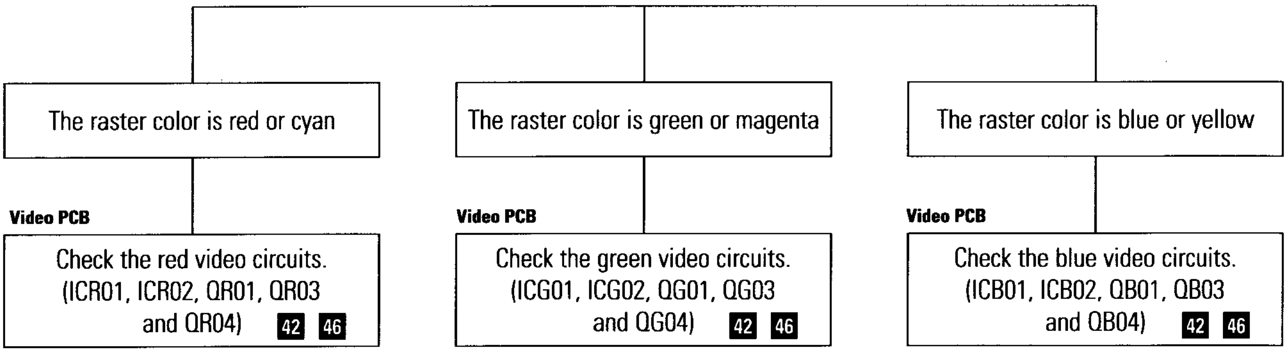

Does S-correction operate on each mode? (See Table 6-1)
No
Check S0 through S5 of IC409 and IC211
Yes
Check Q423 through Q428

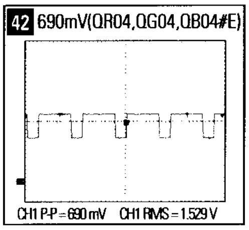
Table 6-1

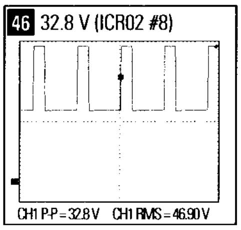
	S5	S4	S3	S2	S1	S0
Under 33 kHz	1	1	1	1	1	1
33 kHz - 40 kHz	0	0	1	1	1	1
53 kHz - 68 kHz	0	0	0	1	0	1
49 kHz - 62.5 kHz	0	0	0	0	1	1
80 kHz - 91 kHz	0	0	0	0	1	1
106 kHz	0	0	0	0	0	1

6-12 No Specific Color Appears

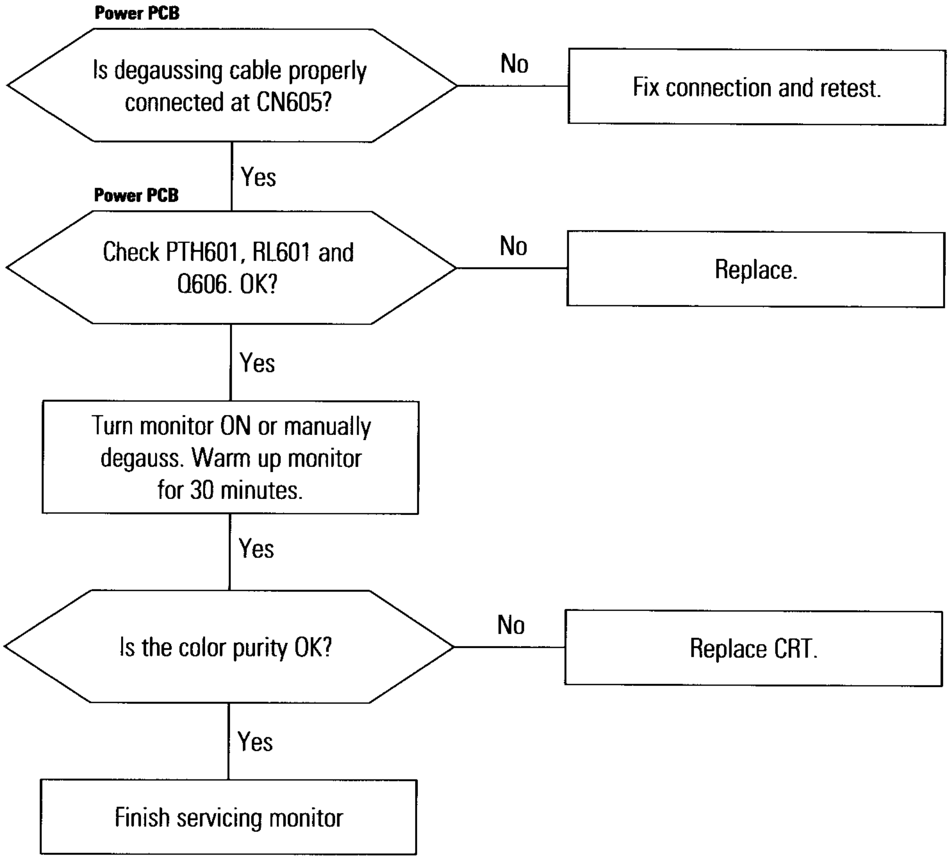

The raster color is red or cyan
Video PCB
Check the red video circuits. (ICR01, ICR02, QR01, QR03 and QR04) 42 46
The raster color is green or magenta
Video PCB
Check the green video circuits. (ICG01, ICG02, QG01, QG03 and QG04) 42 46
The raster color is blue or yellow
Video PCB
Check the blue video circuits. (ICB01, ICB02, QB01, QB03 and QB04) 42 46

WAVEFORMS



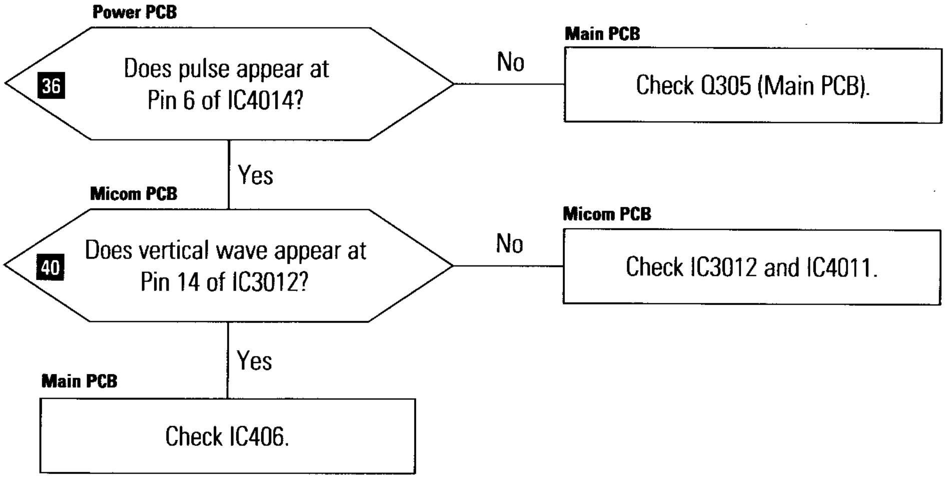


6-13 Color Purity Failure

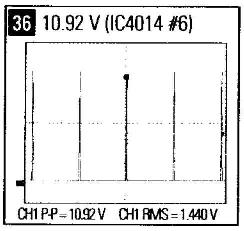

Power PCB
Is degaussing cable properly connected at CN605?
No
Fix connection and retest.
Yes
Power PCB
Check PTH601, RL601 and Q606. OK?
No
Replace.
Yes
Turn monitor ON or manually degauss. Warm up monitor for 30 minutes.
Yes
Is the color purity OK?
No
Replace CRT.
Yes
Finish servicing monitor

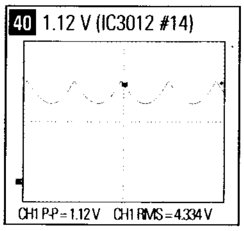
Note: If color purity is not normal, degaussing should be done using a manual degaussing coil before re-inspection.

6-14 Side Pin and Trapezoid Functions Do Not Operate

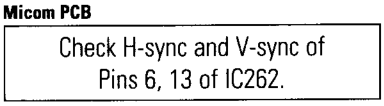

Power PCB
36
Does pulse appear at Pin 6 of IC4014?
No
Main PCB
Check Q305 (Main PCB).
Yes
Micom PCB
40
Does vertical wave appear at Pin 14 of IC3012?
No
Micom PCB
Check IC3012 and IC4011.
Yes
Main PCB
Check IC406.

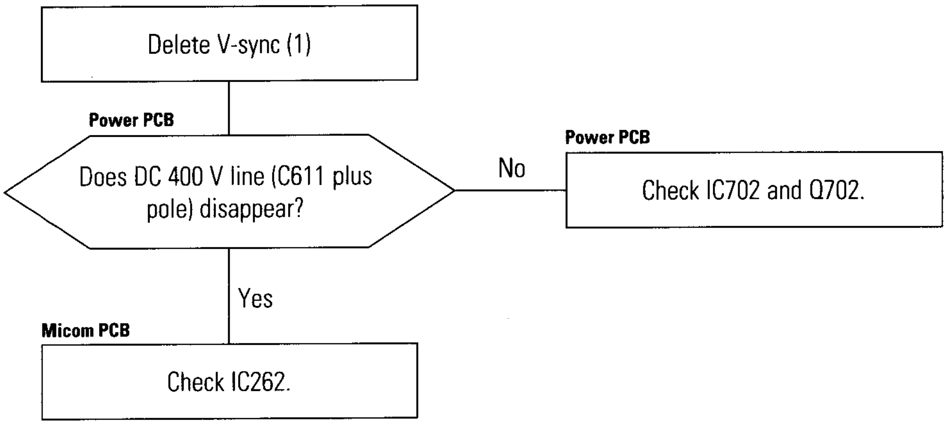
WAVEFORMS

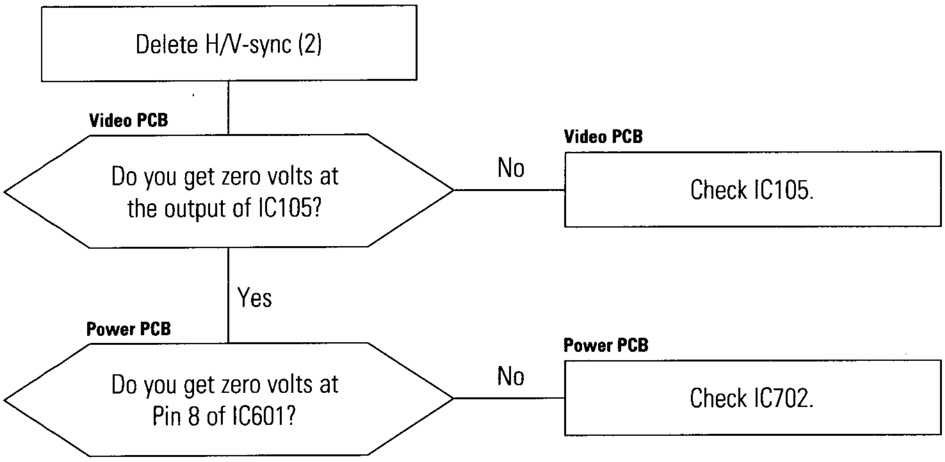




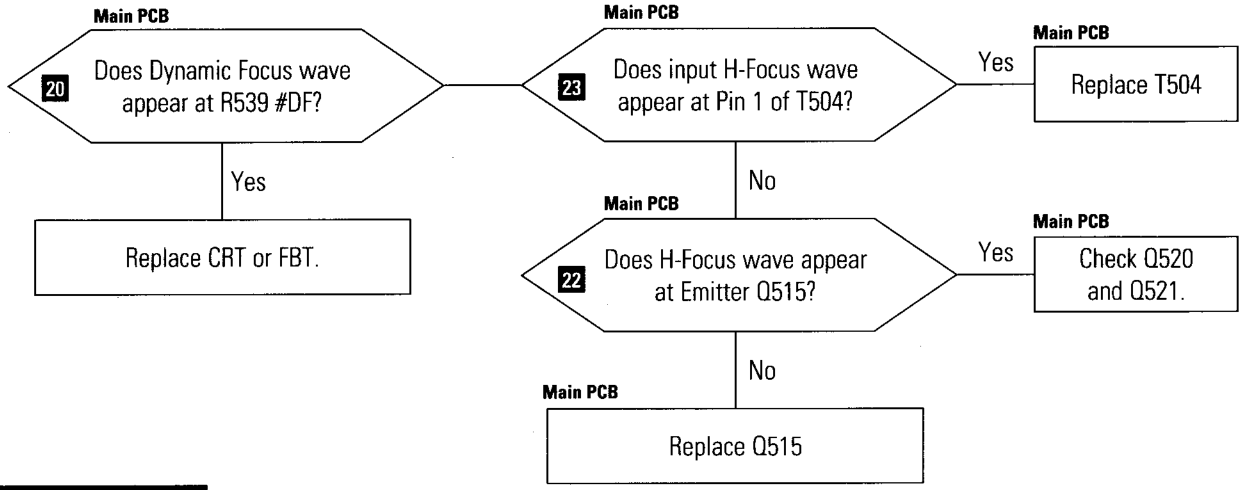
6-15 Power Save Mode Does Not Operate


Micom PCB
Check H-sync and V-sync of Pins 6, 13 of IC262.

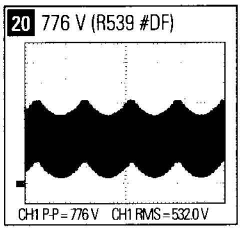

Delete V-sync (1)
Power PCB
Does DC 400 V line (C611 plus pole) disappear?
No
Power PCB
Check IC702 and Q702.
Yes
Micom PCB
Check IC262.

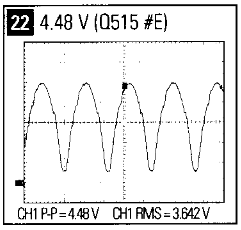

Delete H/V-sync (2)
Video PCB
Do you get zero volts at the output of IC105?
No
Video PCB
Check IC105.
Yes
Power PCB
Do you get zero volts at Pin 8 of IC601?
No
Power PCB
Check IC702.

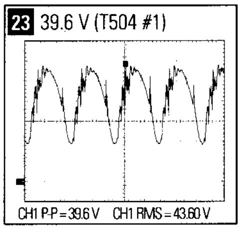
6-16 Double Focus (1)


Main PCB
20 Does Dynamic Focus wave appear at R539 #DF?
Yes
Replace CRT or FBT.
Main PCB
23 Does input H-Focus wave appear at Pin 1 of T504?
Yes
Main PCB
Replace T504
No
Main PCB
22 Does H-Focus wave appear at Emitter Q515?
Yes
Main PCB
Check Q520 and Q521.
No
Main PCB
Replace Q515

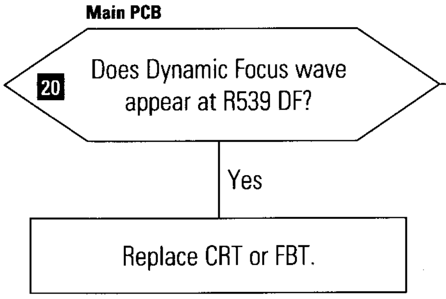
WAVEFORMS

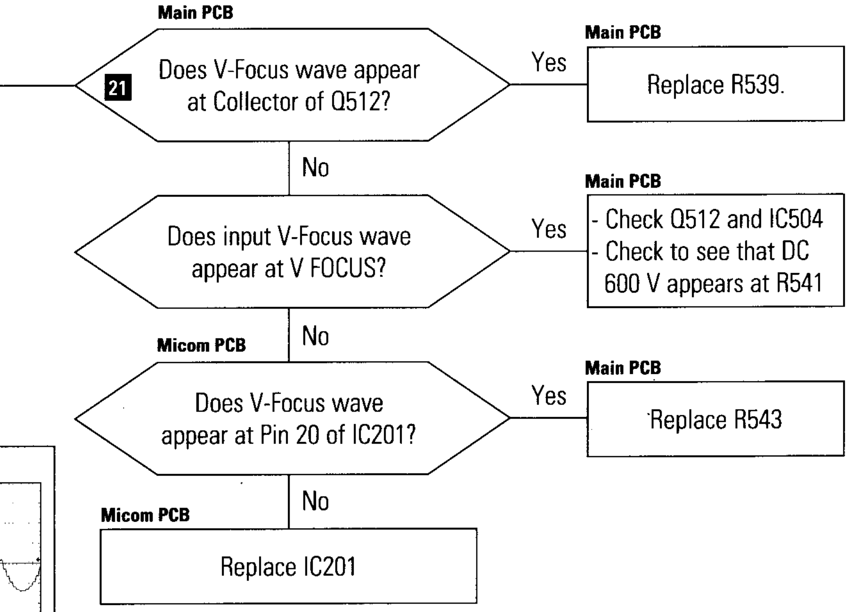

20 776 V (R539 #DF)


22 4.48 V (Q515 #E)

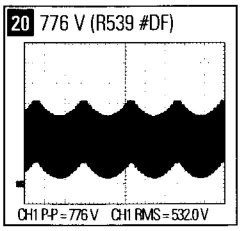

23 39.6 V (T504 #1)

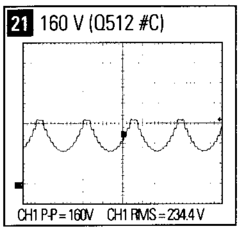
6-17 Double Focus (2)


Main PCB
20 Does Dynamic Focus wave appear at R539 DF?
Yes
Replace CRT or FBT.

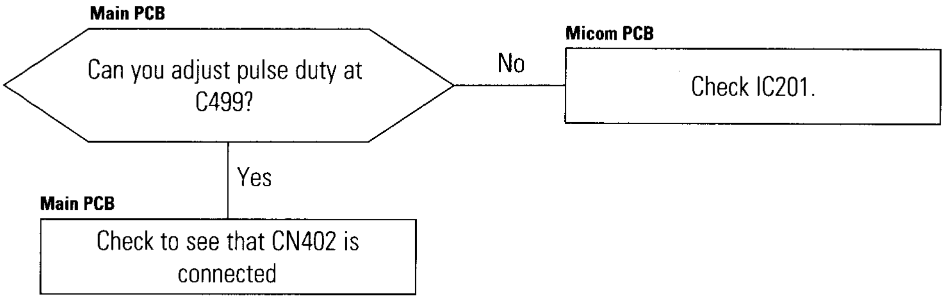

Main PCB
21 Does V-Focus wave appear at Collector of Q512?
Yes
Main PCB
Replace R539.
No
Does input V-Focus wave appear at V FOCUS?
Yes
Main PCB
- Check Q512 and IC504
- Check to see that DC 600 V appears at R541
No
Micom PCB
Does V-Focus wave appear at Pin 20 of IC201?
Yes
Main PCB
Replace R543
No
Micom PCB
Replace IC201

WAVEFORMS

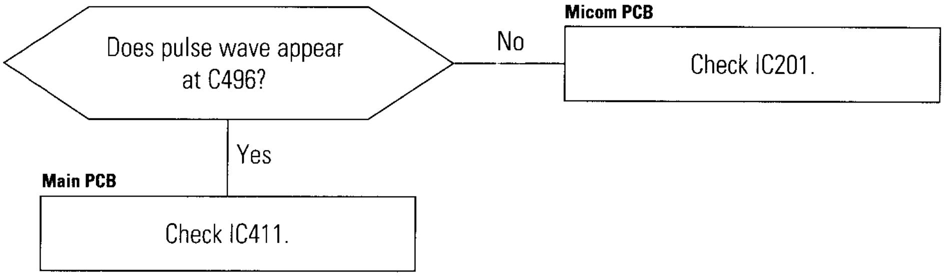

20 776 V (R539 #DF)


21 160 V (Q512 #C)

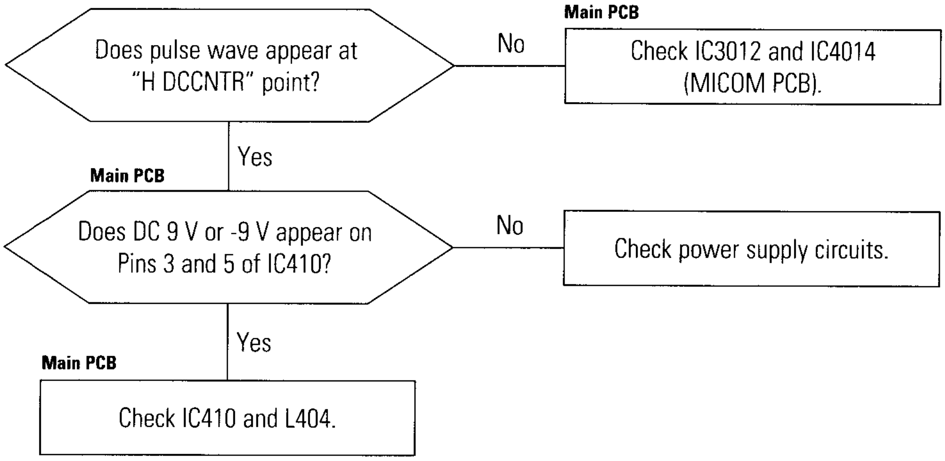
6-18 Rotation Does Not Operate


Main PCB
Can you adjust pulse duty at C499?
No
Micom PCB
Check IC201.
Yes
Main PCB
Check to see that CN402 is connected

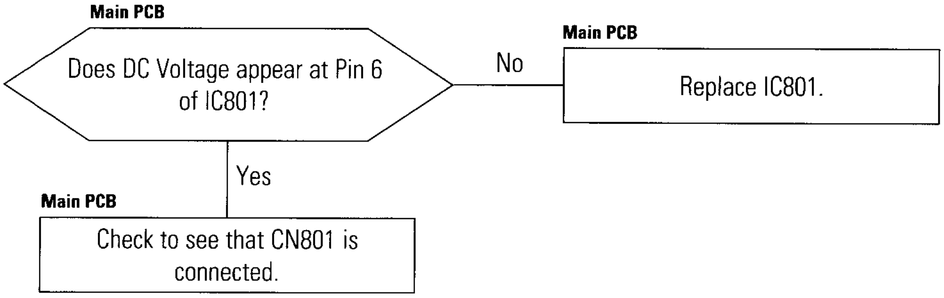
6-19 No H-Linearity


Micom PCB
Does pulse wave appear at C496?
No
Check IC201.
Yes
Main PCB
Check IC411.

6-20 Cannot Adjust Raster Center

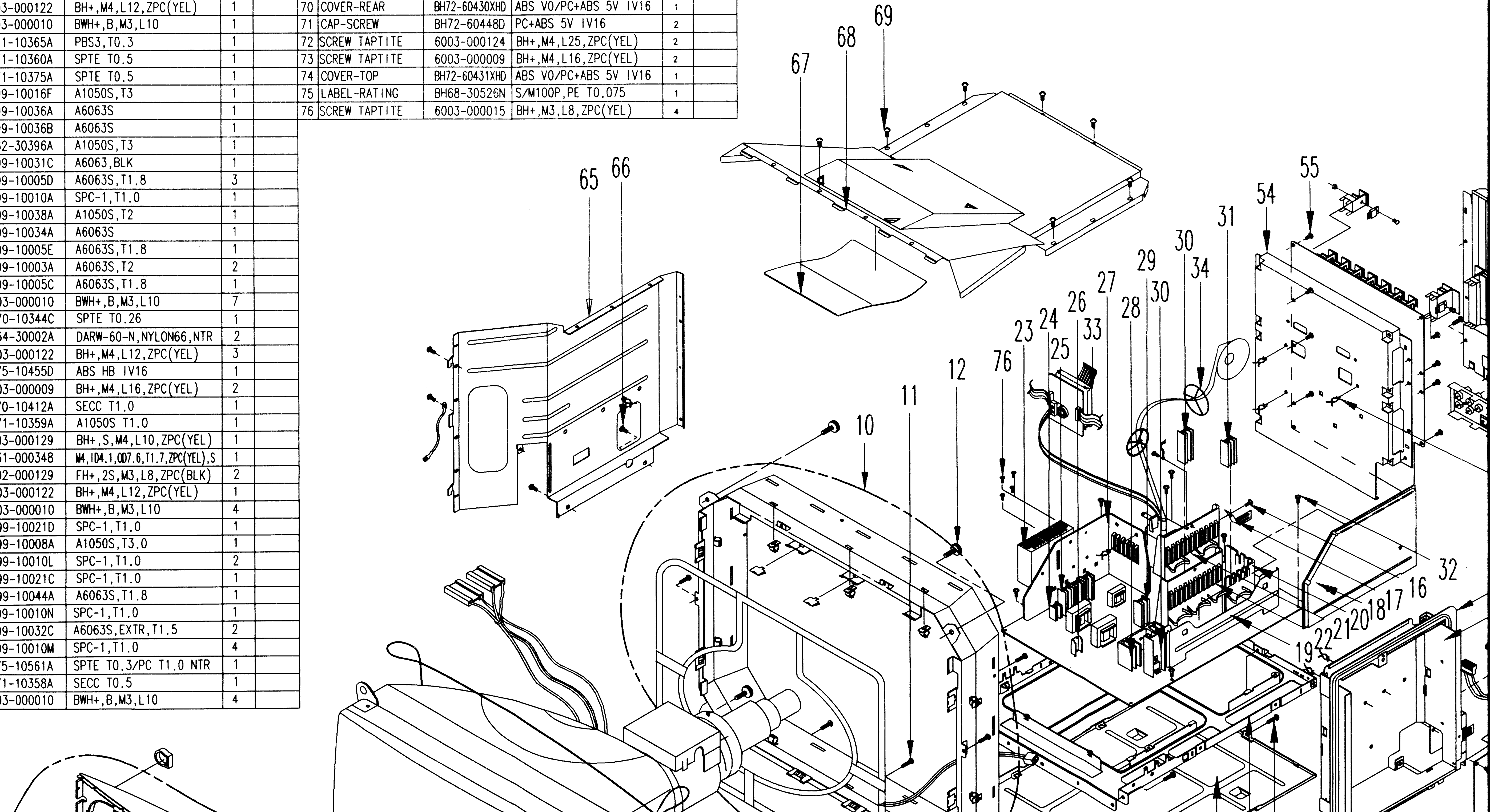

Main PCB
Does pulse wave appear at "H DCCNTR" point?
No
Check IC3012 and IC4014 (MICOM PCB).
Yes
Main PCB
Does DC 9 V or -9 V appear on Pins 3 and 5 of IC410?
No
Check power supply circuits.
Yes
Main PCB
Check IC410 and L404.

6-21 H/V Convergence Does Not Operate

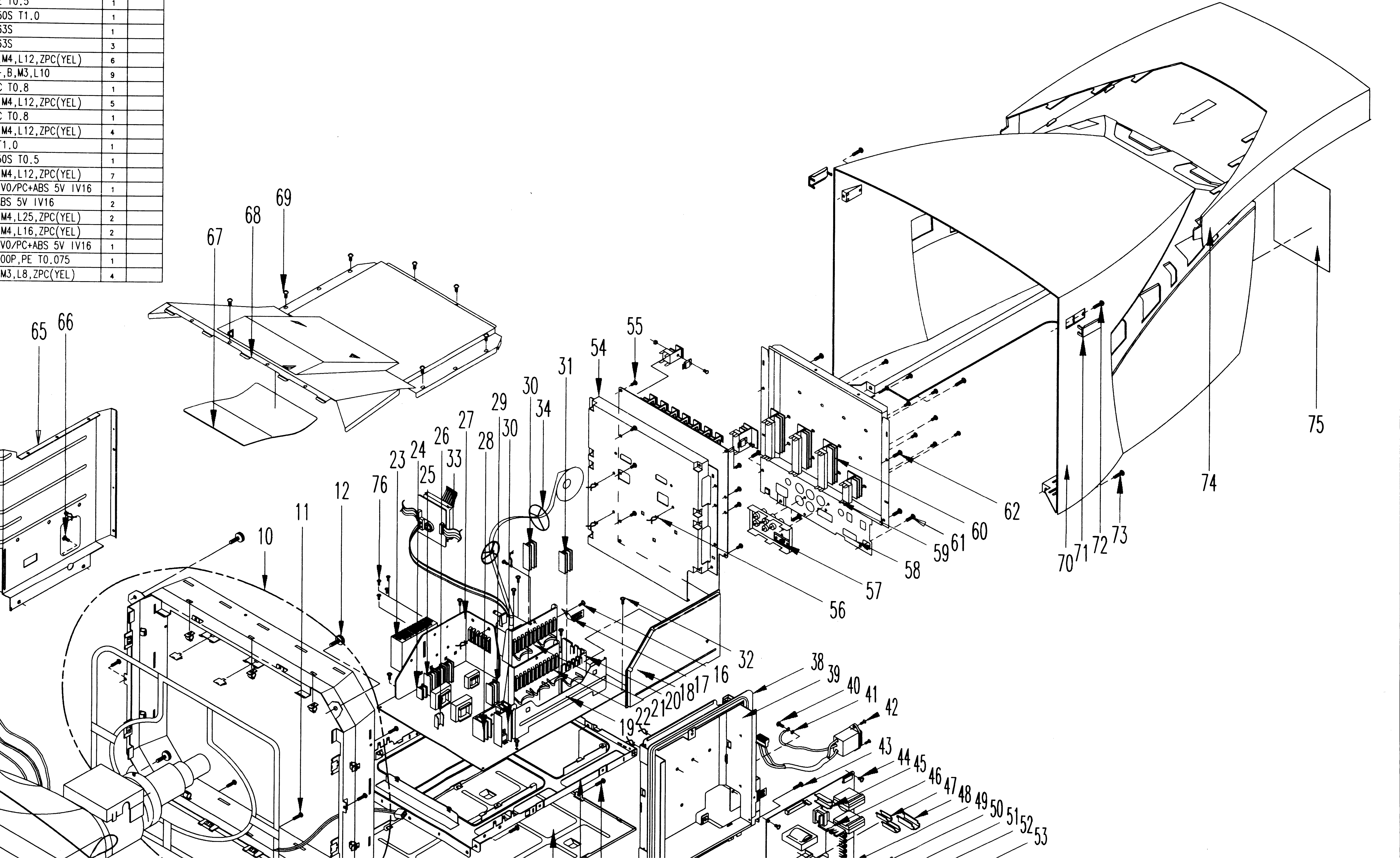

Main PCB
Does DC Voltage appear at Pin 6 of IC801?
No
Main PCB
Replace IC801.
Yes
Main PCB
Check to see that CN801 is connected.

7 Exploded View and Parts List

NO.	DESCRIPTION	CODE NO.	SPECIFICATION	Q'TY	REMARK
1	UNIT/COVER-FRONT	BH75-10451XHD	ABS V0 IV16	1	
2	CAP-BOSS	BH72-60491A	PVC-60* BLK	4	
3	KNOB-FUNCTION	BH64-10382D	PC+ABS 5V IV16	1	
4	SPRING-CS	6107-001036	T0.5,D10,L15,WHT,STS304WPB	1	
5	SCREW TAPTITE	6003-000015	BH+,BD3,L8,SWRCH18A	3	
6	21" CDT		CGX1609	1	
7	FRAME-BOTTOM	BH70-10410A	SECC T1.0	1	
8	SCREW TAPTITE	6003-000122	BH+,M4,L12,ZPC(YEL)	2	
9	SCREW TAPTITE	6003-000009	BH+,M4,L16,ZPC(YEL)	2	
10	UNIT/FRAME-CRT	BH75-10460A	SECC T1.0	1	
11	SCREW TAPTITE	6003-000009	BH+,M4,L16,ZPC(YEL)	4	
12	SCREW-ASS'Y TAPTITE	6006-000201	WPP,BH+,M5,L30	4	
13	BRKT-BOTTOM	BH70-10411A	SECC T1.0	1	
14	BRKT-MAIN PCB	BH70-10430A	SECC T1.2	1	
15	SCREW TAPTITE	6003-000122	BH+,M4,L12,ZPC(YEL)	1	
16	SCREW TAPTITE	6003-000010	BWH+,B,M3,L10	1	
17	EARTH-PLATE	BH71-10365A	PBS3,T0.3	1	
18	SHIELD-MICOM	BH71-10360A	SPTE T0.5	1	
19	BRKT-MICOM	BH71-10375A	SPTE T0.5	1	
20	ASS'Y-HEAT/SINK	BH99-10016F	A1050S,T3	1	
21	ASS'Y-HEAT/SINK	BH99-10036A	A6063S	1	
22	ASS'Y-HEAT/SINK	BH99-10036B	A6063S	1	
23	HEAT/SINK MAIN	BH62-30396A	A1050S,T3	1	
24	ASS'Y-HEAT/SINK	BH99-10031C	A6063,BLK	1	
25	ASS'Y-HEAT/SINK	BH99-10005D	A6063S,T1.8	3	
26	ASS'Y-HEAT/SINK	BH99-10010A	SPC-1,T1.0	1	
27	ASS'Y-HEAT/SINK	BH99-10038A	A1050S,T2	1	
28	ASS'Y-HEAT/SINK	BH99-10034A	A6063S	1	
29	ASS'Y-HEAT/SINK	BH99-10005E	A6063S,T1.8	1	
30	ASS'Y-HEAT/SINK	BH99-10003A	A6063S,T2	2	
31	ASS'Y-HEAT/SINK	BH99-10005C	A6063S,T1.8	1	
32	SCREW TAPTITE	6003-000010	BWH+,B,M3,L10	7	
33	SHIELD-CDT	BH70-10344C	SPTE T0.26	1	
34	LOCKER-WIRE	BH64-30002A	DARW-60-N,NYLON66,NTR	2	
35	SCREW TAPTITE	6003-000122	BH+,M4,L12,ZPC(YEL)	3	
36	UNIT-STAND	BH75-10455D	ABS HB IV16	1	
37	SCREW TAPTITE	6003-000009	BH+,M4,L16,ZPC(YEL)	2	
38	BRKT-SMPS	BH70-10412A	SECC T1.0	1	
39	SHIELD-SMPS	BH71-10359A	A1050S T1.0	1	
40	SCREW TAPTITE	6003-000129	BH+,S,M4,L10,ZPC(YEL)	1	
41	WASHER-SPRING	6031-000348	M4,ID4.1,OD7.6,T1.7,ZPC(YEL),S	1	
42	SCREW TAPTITE	6002-000129	FH+,2S,M3,L8,ZPC(BLK)	2	
43	SCREW TAPTITE	6003-000122	BH+,M4,L12,ZPC(YEL)	1	
44	SCREW TAPTITE	6003-000010	BWH+,B,M3,L10	4	
45	ASS'Y-HEAT/SINK	BH99-10021D	SPC-1,T1.0	1	
46	ASS'Y-HEAT/SINK	BH99-10008A	A1050S,T3.0	1	
47	ASS'Y-HEAT/SINK	BH99-10010L	SPC-1,T1.0	2	
48	ASS'Y-HEAT/SINK	BH99-10021C	SPC-1,T1.0	1	
49	ASS'Y-HEAT/SINK	BH99-10044A	A6063S,T1.8	1	
50	ASS'Y-HEAT/SINK	BH99-10010N	SPC-1,T1.0	1	
51	ASS'Y-HEAT/SINK	BH99-10032C	A6063S,EXTR,T1.5	2	
52	ASS'Y-HEAT/SINK	BH99-10010M	SPC-1,T1.0	4	
53	UNIT/SHIELD-SMPS	BH75-10561A	SPTE T0.3/PC T1.0 NTR	1	
54	SHIELD-VIDEO	BH71-10358A	SECC T0.5	1	
55	SCREW TAPTITE	6003-000010	BWH+,B,M3,L10	4	
56	CABLE-CLAMP	6502-000137	DAWS-3NA,ID10,NTR,NYLON66	7	
57	BRKT-BNC	BH71-10362A	SPTE T0.5	1	
58	SHIELD-REAR	BH71-10357A	A1050S T1.0	1	
59	ASS'Y-HEAT/SINK	BH99-10039B	A6063S	1	
60	ASS'Y-HEAT/SINK	BH99-10037A	A6063S	3	
61	SCREW TAPTITE	6003-000122	BH+,M4,L12,ZPC(YEL)	6	
62	SCREW TAPTITE	6003-000010	BWH+,B,M3,L10	9	
63	SHIELD-RIGHT	BH71-10355A	SECC T0.8	1	
64	SCREW TAPTITE	6003-000122	BH+,M4,L12,ZPC(YEL)	5	
65	SHIELD-LEFT	BH71-10356A	SECC T0.8	1	
66	SCREW TAPTITE	6003-000122	BH+,M4,L12,ZPC(YEL)	4	
67	SHEET-ANODE	BH72-10338A	PC T1.0	1	
68	SHIELD-TOP	BH71-10374A	A1050S T0.5	1	
69	SCREW TAPTITE	6003-000122	BH+,M4,L12,ZPC(YEL)	7	
70	COVER-REAR	BH72-60430XHD	ABS V0/PC+ABS 5V IV16	1	
71	CAP-SCREW	BH72-60448D	PC+ABS 5V IV16	2	
72	SCREW TAPTITE	6003-000124	BH+,M4,L25,ZPC(YEL)	2	
73	SCREW TAPTITE	6003-000009	BH+,M4,L16,ZPC(YEL)	2	
74	COVER-TOP	BH72-60431XHD	ABS V0/PC+ABS 5V IV16	1	
75	LABEL-RATING	BH68-30526N	S/M100P,PE T0.075	1	
76	SCREW TAPTITE	6003-000015	BH+,M3,L8,ZPC(YEL)	4	



SPECIFICATION	Q'TY	REMARK
-3NA,ID10,NTR,NYLON66	7	
T0.5	1	
60S T1.0	1	
63S	1	
63S	3	
M4,L12,ZPC(YEL)	6	
,B,M3,L10	9	
T0.8	1	
M4,L12,ZPC(YEL)	5	
T0.8	1	
M4,L12,ZPC(YEL)	4	
1.0	1	
60S T0.5	1	
M4,L12,ZPC(YEL)	7	
V0/PC+ABS 5V IV16	1	
BS 5V IV16	2	
M4,L25,ZPC(YEL)	2	
M4,L16,ZPC(YEL)	2	
V0/PC+ABS 5V IV16	1	
00P,PE T0.075	1	
M3,L8,ZPC(YEL)	4	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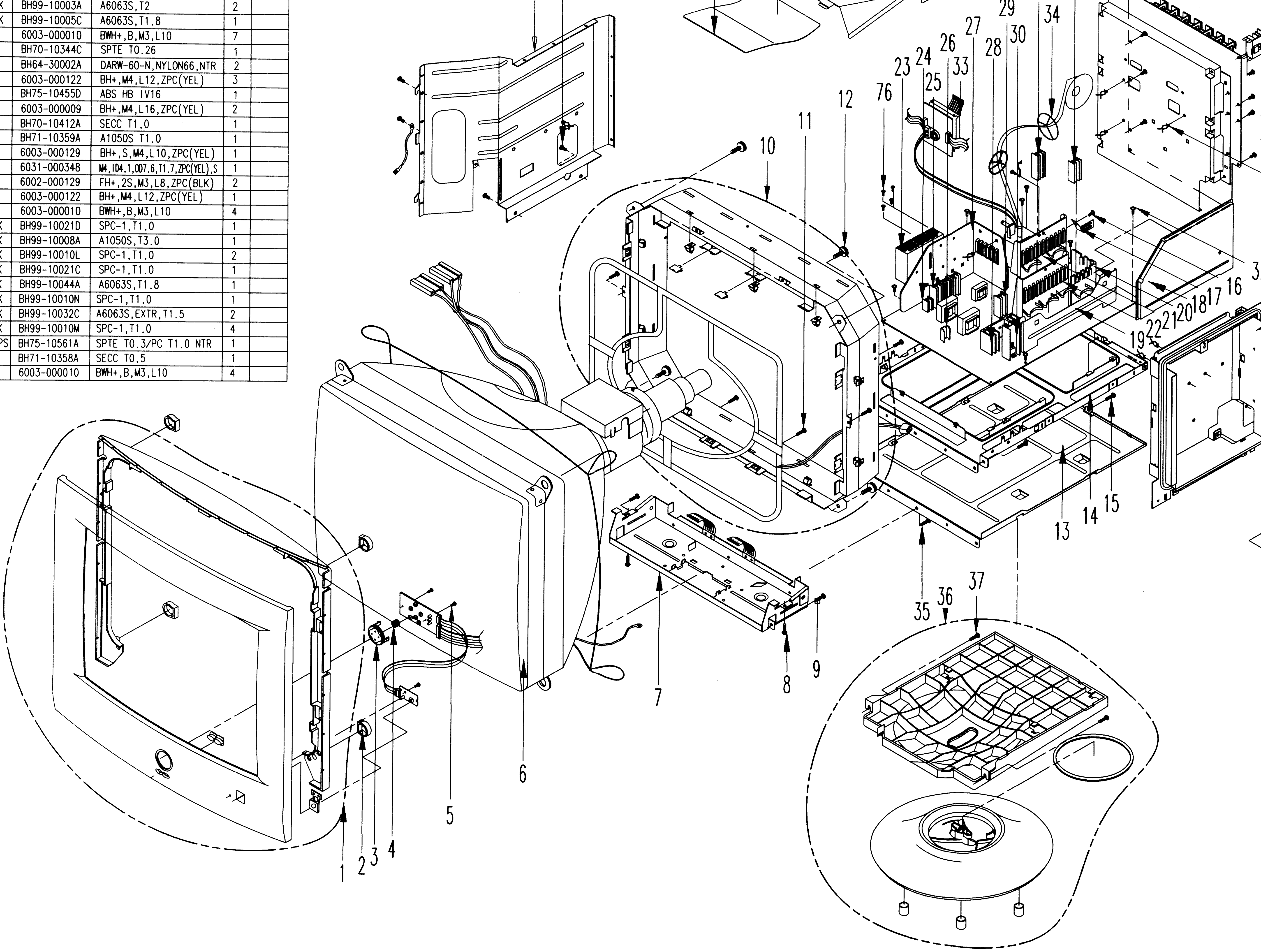
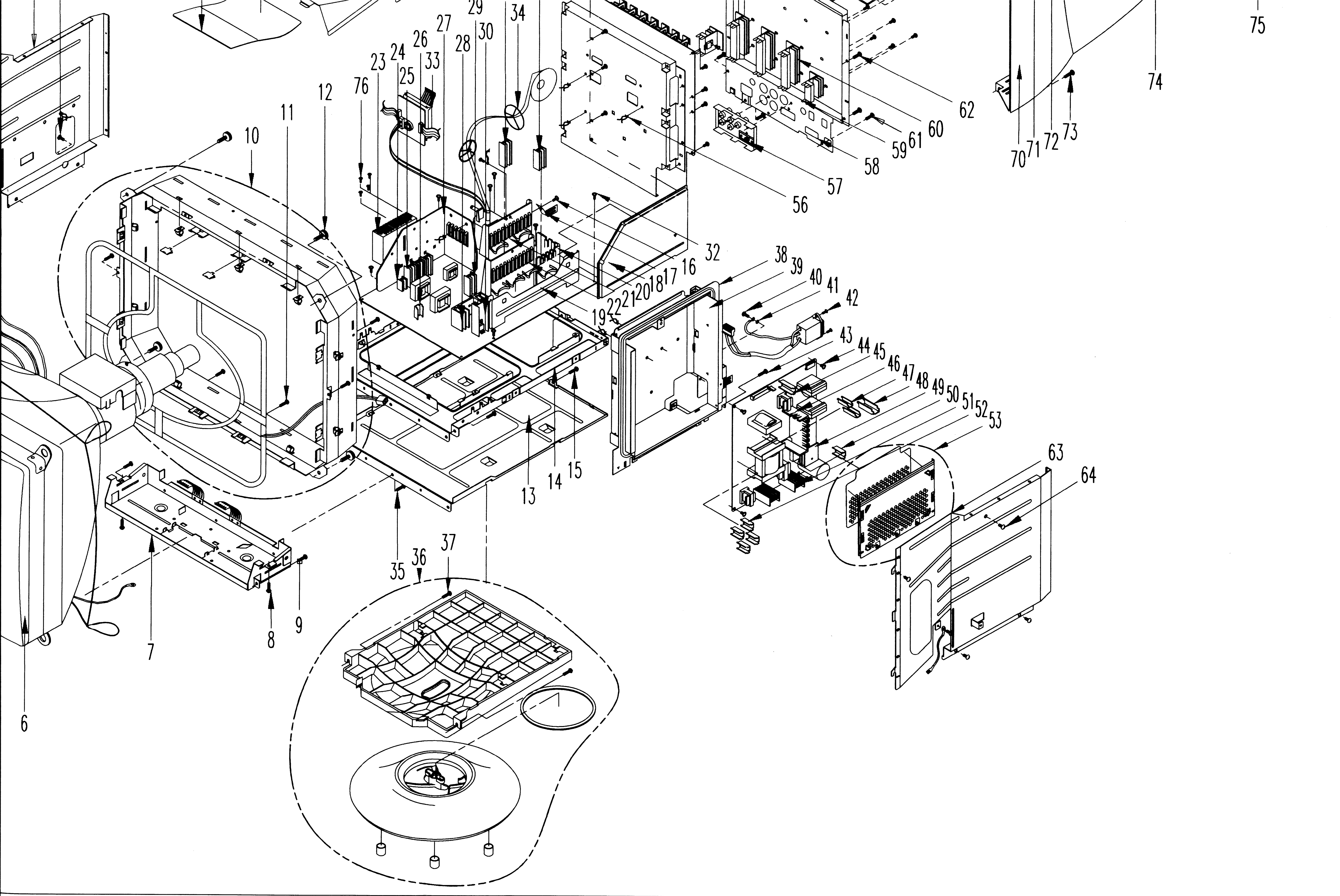
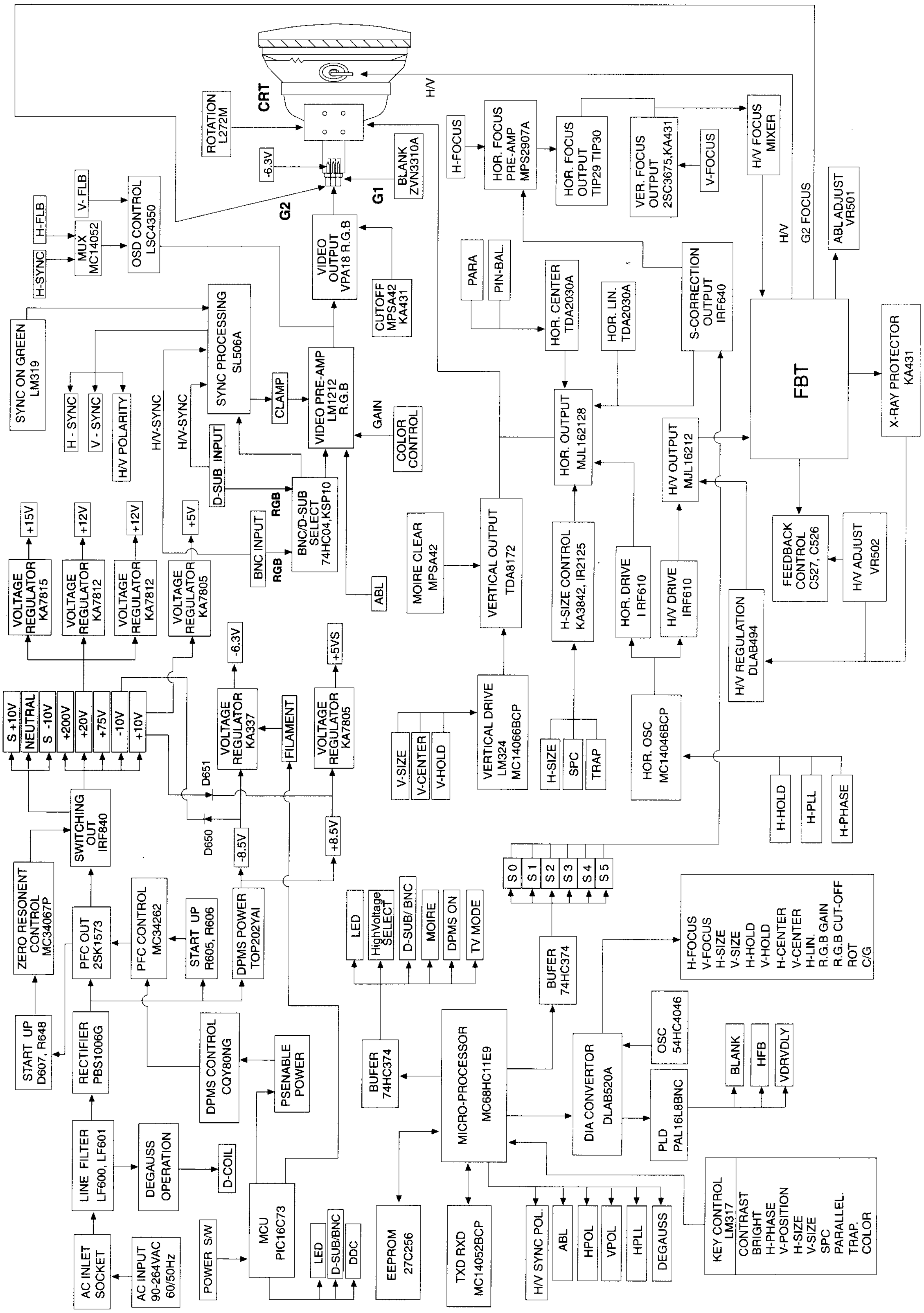
30	ASS'Y-HEAT/SINK	BH99-10003A	A6063S,T2	2	
31	ASS'Y-HEAT/SINK	BH99-10005C	A6063S,T1.8	1	
32	SCREW TAPTITE	6003-000010	BWH+,B,M3,L10	7	
33	SHIELD-CDT	BH70-10344C	SPTE T0.26	1	
34	LOCKER-WIRE	BH64-30002A	DARW-60-N,NYLON66,NTR	2	
35	SCREW TAPTITE	6003-000122	BH+,M4,L12,ZPC(YEL)	3	
36	UNIT-STAND	BH75-10455D	ABS HB IV16	1	
37	SCREW TAPTITE	6003-000009	BH+,M4,L16,ZPC(YEL)	2	
38	BRKT-SMPS	BH70-10412A	SECC T1.0	1	
39	SHIELD-SMPS	BH71-10359A	A1050S T1.0	1	
40	SCREW TAPTITE	6003-000129	BH+,S,M4,L10,ZPC(YEL)	1	
41	WASHER-SPRING	6031-000348	M4,ID4.1,OD7.6,T1.7,ZPC(YEL),S	1	
42	SCREW TAPTITE	6002-000129	FH+,2S,M3,L8,ZPC(BLK)	2	
43	SCREW TAPTITE	6003-000122	BH+,M4,L12,ZPC(YEL)	1	
44	SCREW TAPTITE	6003-000010	BWH+,B,M3,L10	4	
45	ASS'Y-HEAT/SINK	BH99-10021D	SPC-1,T1.0	1	
46	ASS'Y-HEAT/SINK	BH99-10008A	A1050S,T3.0	1	
47	ASS'Y-HEAT/SINK	BH99-10010L	SPC-1,T1.0	2	
48	ASS'Y-HEAT/SINK	BH99-10021C	SPC-1,T1.0	1	
49	ASS'Y-HEAT/SINK	BH99-10044A	A6063S,T1.8	1	
50	ASS'Y-HEAT/SINK	BH99-10010N	SPC-1,T1.0	1	
51	ASS'Y-HEAT/SINK	BH99-10032C	A6063S,EXTR,T1.5	2	
52	ASS'Y-HEAT/SINK	BH99-10010M	SPC-1,T1.0	4	
53	UNIT/SHIELD-SMPS	BH75-10561A	SPTE T0.3/PC T1.0 NTR	1	
54	SHIELD-VIDEO	BH71-10358A	SECC T0.5	1	
55	SCREW TAPTITE	6003-000010	BWH+,B,M3,L10	4	

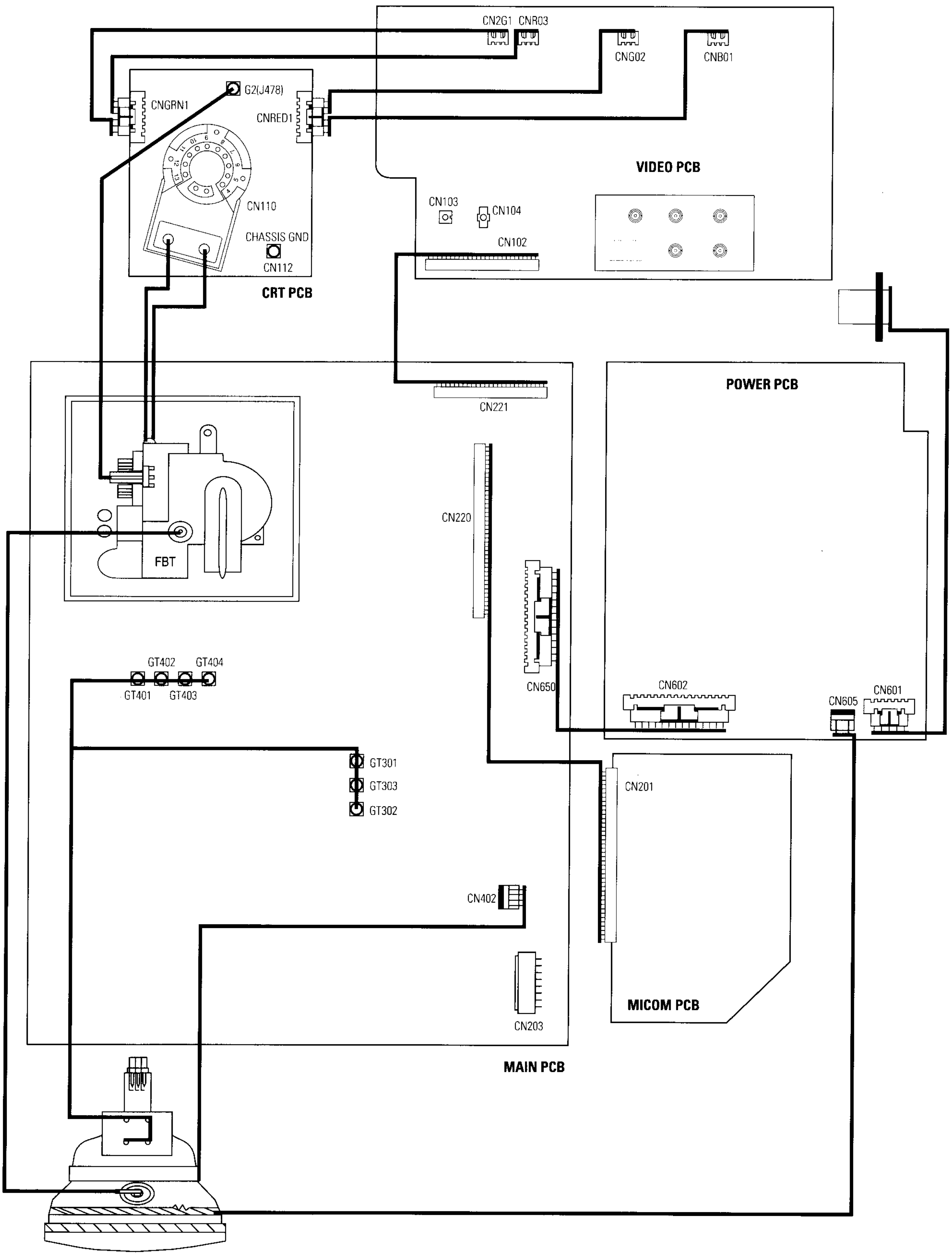




8 Block Diagram


CRT
ROTATION L272M
-6.3V
BLANK ZVN3310A
G1
G2
H/V
H-FOCUS
HOR. FOCUS PRE-AMP MPS2907A
HOR. FOCUS OUTPUT TIP29 TIP30
VER. FOCUS OUTPUT 2SC3675,KA431
V-FOCUS
H/V FOCUS MIXER
G2 FOCUS
ABL ADJUST VR501
H-FLB
V-FLB
H-SYNC
MUX MC14052
OSD CONTROL LSC4350
VIDEO OUTPUT VPA18 R.G.B
CUTOFF MPSA42 KA431
PARA
PIN-BAL.
HOR. CENTER TDA2030A
HOR. LIN. TDA2030A
S-CORRECTION OUTPUT IRF640
FBT
X-RAY PROTECTOR KA431
SYNC ON GREEN LM319
SYNC PROCESSING SL506A
CLAMP
VIDEO PRE-AMP LM1212 R.G.B
GAIN
COLOR CONTROL
H - SYNC
V - SYNC
H/V POLARITY
H/V-SYNC
H/V-SYNC
D-SUB INPUT
RGB
BNC/D-SUB SELECT 74HC04,KSP10
BNC INPUT
RGB
ABL
HOR. OUTPUT MJL162128
H/V OUTPUT MJL16212
MOIRE CLEAR MPSA42
VERTICAL OUTPUT TDA8172
H-SIZE CONTROL KA3842, IR2125
HOR. DRIVE I RF610
H/V DRIVE IRF610
FEEDBACK CONTROL C527, C526
H/V ADJUST VR502
H/V REGULATION DLAB494
+15V
+12V
+12V
+5V
VOLTAGE REGULATOR KA7815
VOLTAGE REGULATOR KA7812
VOLTAGE REGULATOR KA7812
VOLTAGE REGULATOR KA7805
S +10V
NEUTRAL
S -10V
+200V
+20V
+75V
-10V
+10V
-6.3V
VOLTAGE REGULATOR KA337
FILAMENT
+5VS
VOLTAGE REGULATOR KA7805
D651
D650
-8.5V
+8.5V
V-SIZE
V-CENTER
V-HOLD
VERTICAL DRIVE LM324 MC14066BCP
H-SIZE
SPC
TRAP
HOR. OSC MC14046BCP
H-HOLD
H-PLL
H-PHASE
ZERO RESONENT CONTROL MC34067P
SWITCHING OUT IRF840
PFC OUT 2SK1573
PFC CONTROL MC34262
START UP R605, R606
DPMS POWER TOP202YAI
S 0
S 1
S 2
S 3
S 4
S 5
LED
HighVoltage SELECT
D-SUB/ BNC
MOIRE
DPMS ON
TV MODE
BUFER 74HC374
H-FOCUS
V-FOCUS
H-SIZE
V-SIZE
H-HOLD
V-HOLD
H-CENTER
V-CENTER
H-LIN.
R.G.B GAIN
R.G.B CUT-OFF
ROT
C/G
START UP D607, R648
RECTIFIER PBS1006G
DPMS CONTROL CQY80NG
PSENABLE POWER
BUFER 74HC374
MICRO-PROCESSOR MC68HC11E9
OSC 54HC4046
DIA CONVERTOR DLAB520A
PLD PAL16L8BNC
BLANK
HFB
VDRVDLY
LINE FILTER LF600, LF601
DEGAUSS OPERATION
D-COIL
AC INLET SOCKET
AC INPUT 90-264VAC 60/50Hz
POWER S/W
MCU PIC16C73
LED
D-SUB/BNC
DDC
EEPROM 27C256
TXD RXD MC14052BCP
H/V SYNC POL.
ABL
HPOL
VPOL
HPLL
DEGAUSS
KEY CONTROL LM317
CONTRAST
BRIGHT
H-PHASE
V-POSITION
H-SIZE
V-SIZE
SPC
PARALLEL
TRAP
COLOR

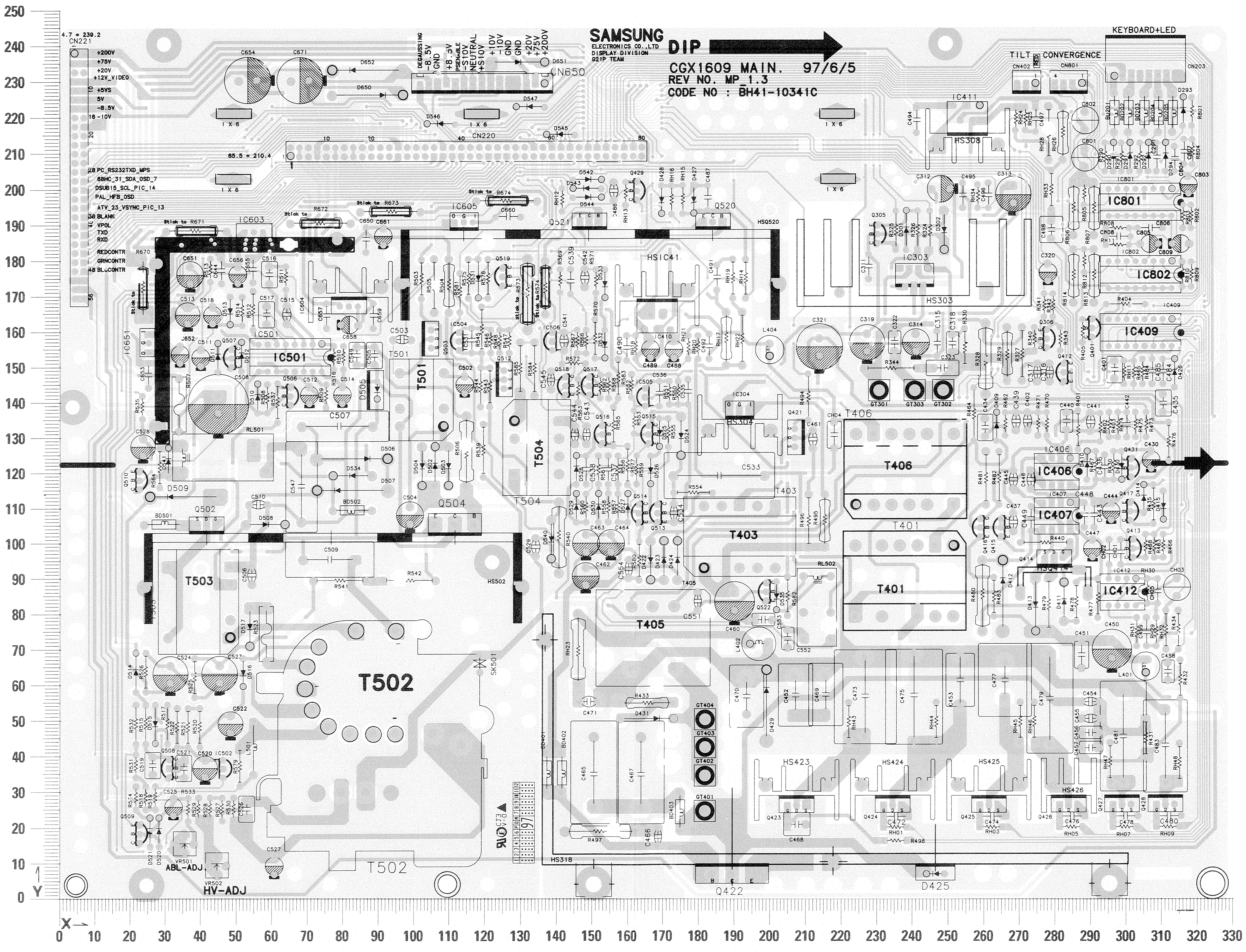
9 Wiring Diagram


CN2G1
CNR03
CNG02
CNB01
G2(J478)
CNGRN1
CNRED1
VIDEO PCB
CN110
CHASSIS GND
CN112
CRT PCB
CN103
CN104
CN102
CN221
POWER PCB
CN220
FBT
CN650
CN602
CN605
CN601
GT402
GT404
GT401
GT403
GT301
GT303
GT302
CN201
CN402
CN203
MICOM PCB
MAIN PCB

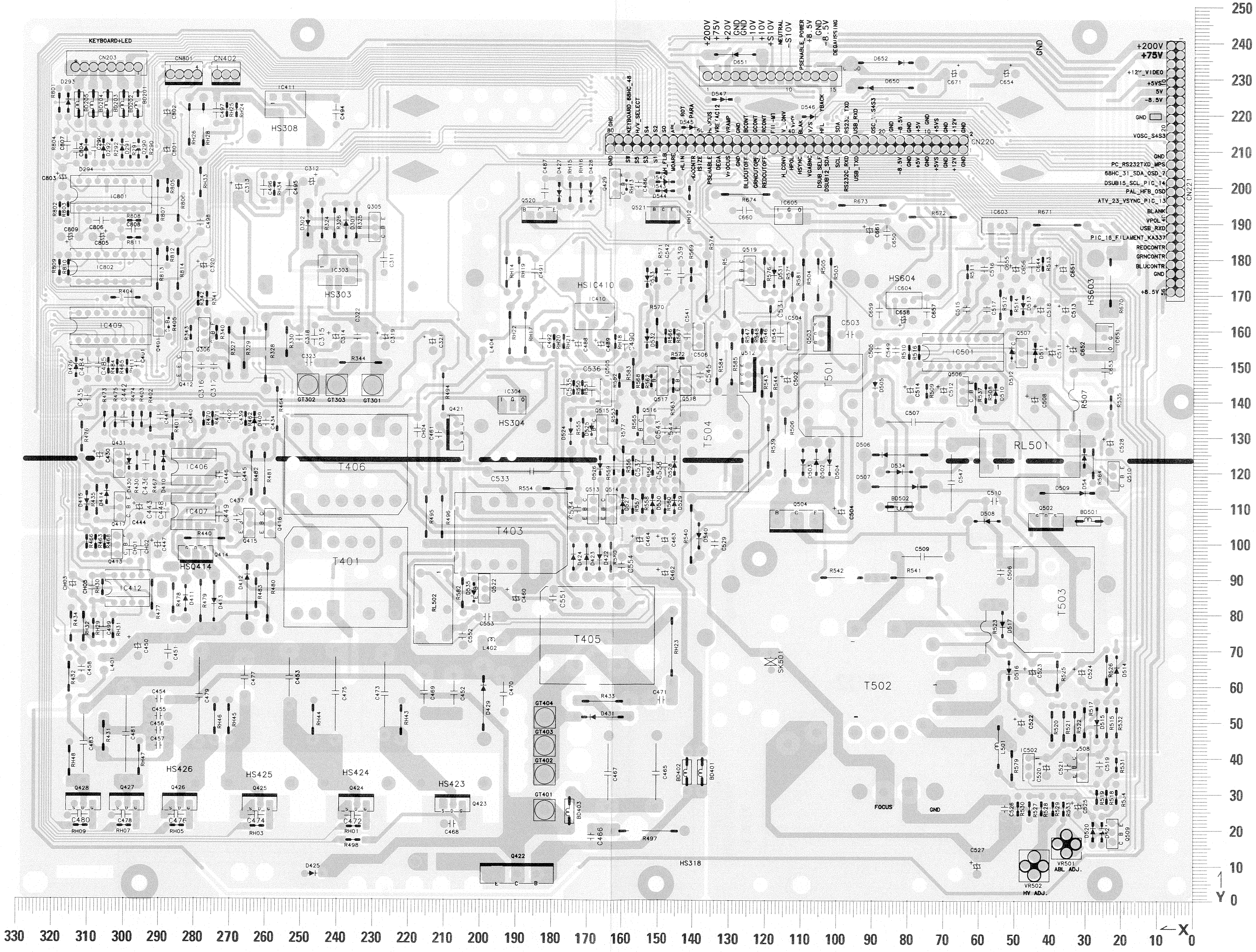
10 PCB Diagrams and Electrical Parts List

10-1 Main PCB

10-1-1 Top View


SAMSUNG
ELECTRONICS CO.,LTD
DISPLAY DIVISION
G21P TEAM
DIP
CGX1609 MAIN. 97/6/5
REV NO. MP_1.3
CODE NO : BH41-10341C
KEYBOARD+LED
TILT
CONVERGENCE
T502
T503
T504
T501
T406
T401
T403
T405
IC501
IC801
IC802
IC409
IC406
IC407
IC412
ABL-ADJ
HV-ADJ
Q422
D425
X
Y

10-1-2 Bottom View


KEYBOARD+LED
CN203
CN801
CN402
IC411
HS308
IC801
IC802
IC409
HS303
IC303
GT302
GT303
GT301
IC406
IC407
HS0414
IC412
T406
T401
T403
T405
HS304
IC304
HSIC410
IC410
RL502
T504
T501
HS604
IC604
IC605
IC603
IC501
RL501
T503
T502
SK501
GT404
GT403
GT402
GT401
HS426
HS425
HS424
HS423
Q428
Q427
Q426
Q425
Q424
Q423
Q422
HS318
IC502
VR502
HV ADJ.
VR501
ABL ADJ.
FOCUS
GND
CN220
CN221
D651
+200V
+75V
+20V
GND
GND
-10V
+10V
+S10V
-S10V
NEUTRAL
+8.5V
PSENABLE_POWER
+6.5V
GND
-8.5V
DEGAUSSING
+200V
+75V
+12V_VIDEO
+5VS
5V
-8.5V
GND
VOSC_S4S3
GND
PC_RS232TXD_MPS
5BHC_31_SDA_OSD_7
DSUB15_SCL_PIC_14
PAL_HFB_OSD
ATV_23_VSYNC_PIC_13
BLANK
VPOL
USB_RXD
PIC_16_FILAMENT_KA337
REDCONTR
GRNCONTR
BLUCONTR
GND
+8.5V
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
Y 0
330
320
310
300
290
280
270
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
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X 0

10-1-3 Main PCB Parts

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
BD201	297.5	228	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
BD202	301.5	228	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
BD203	306	228	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
BD204	310	228	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
BD205	314	228	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
BD401	137.8	42	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
BD402	142	42	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
BD403	175.3	31	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
BD501	24.3	106.7	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
BD502	88.5	110.6	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
C290	309.5	214	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C311	228.3	175.8	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C312	246	201	2401-001556	CAP-AL.ELEC,476M,1V	(T)35V 47M	
C313	269	202	2401-000054	CAP-AL.ELEC,107M,1H,105C	(T)50V 100M	
C314	241.5	160.3	2401-000037	CAP-AL.ELEC,477M,1C	(T)470UF,16V,20%,8x11.5,R-RADIAL	
C315	247.5	154	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C316	279.3	151.8	2202-000319	CAP-CERAMIC,104K,2A	100NF,100V,5%,X7R,RE-RADIAL,DIP	
C317	275.8	151.8	2202-000319	CAP-CERAMIC,104K,2A	100NF,100V,5%,X7R,RE-RADIAL,DIP	
C318	251.8	160	2301-000287	CAP-MYLAR,562J,2A,5P	(T)100V 562J	
C319	227.8	160.3	2401-001404	CAP-AL.ELEC,477M,1E,105C	(T)25V 470M	
C320	278.8	180	2401-000028	CAP-AL.ELEC,106M,1H	(T)50V 10M	
C321	214.3	159	2401-000703	C-AL	2200uF,20%,25V,GP,12.5x25mm,5m	
C322	235.5	160.3	2301-000011	CAP-MYLAR,102J,2A,5P	(T)100V 102J	
C323	246.5	150.5	2301-000294	C-FILM,PEF	56nF,5%,100V,9.5x12.5mm,5mm,TP	
C401	297.5	152.5	2301-000020	CAP-MYLAR,273J,2A,5P	(T)100V 273J	
C402	273	138	2202-000394	CAP-CERAMIC,102J,2A	1NF,100V,5%,NPO,RE-RADIAL,DIPPE	
C430	307.8	127	2401-000486	CAP-AL.ELEC,106M,1H,6X7	(T)50V 10M	
C434	261	136.3	2301-000020	CAP-MYLAR,273J,2A,5P	(T)100V 273J	
C435	311.3	143	2305-000162	CAP-MPETP,103K,2A,5P	(T)100V 103K	
C436	294.8	119	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C437	269	109.5	2202-000394	CAP-CERAMIC,102J,2A	1NF,100V,5%,NPO,RE-RADIAL,DIPPE	
C439	269.8	138	2201-000013	CAP-CERAMIC,471K,1H,Y5P	470PF,50V,10%,10%,Y5P,DISC-RADI	
C440	284	133	2301-000174	C-FILM,PEF	15nF,5%,100V,7.2x4.0x7.5mm,5mm	
C441	290.8	132.8	2201-000673	CAP-CERAMIC,821K,1H,Y5P	820PF,50V,10%,10%,Y5P,DISC-RADI	
C442	301	138	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C443	291.8	112.5	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C444	296.5	112.5	2401-000048	CAP-AL.ELEC,476M,1E	(T)25V 47M	
C445	269	121.6	2202-000394	CAP-CERAMIC,102J,2A	1NF,100V,5%,NPO,RE-RADIAL,DIPPE	
C446	274	116.5	2202-000394	CAP-CERAMIC,102J,2A	1NF,100V,5%,NPO,RE-RADIAL,DIPPE	
C447	291.3	102	2401-000027	CAP-AL.ELEC,475M,1H	(T)50V 4.7M	
C448	289	112.5	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C449	274	104.5	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C450	296.7	73.6	2401-000925	CAP-AL.ELEC,226M.2E	(T)22UF,250V,20%,10X20,R-RADIAL	⚠
C451	288.2	73.3	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)250V 104J	⚠
C452	207.7	63.3	2301-001042	C-FILM,MPPF	68nF,5%,400V,TP,17.5x8.5x17.5	
C453	253.9	70	2306-000133	C-FILM,MPPF	150nF,5%,400V,21.5x17mm,17.5mm	⚠
C454	288.1	56.3	2201-000131	CAP-CERAMIC,101K,3D,DISK	100pF,2KV,10%,Y5P,DISK-RADI	⚠

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
C455	293.2	51.5	2201-000291	CAP-CERAMIC,102K,2H,Y5P	1NF,500V,20%,10%,Y5P,DISC-RADIA	
C456	288.2	47.5	2301-000231	CAP-MYLAR,332J,2A,5P	(T)100V 332J	
C457	288.2	43.3	2301-000110	CAP-MYLAR,182J,2A,5P	(T)100V 182J	
C458	312.5	67.3	2301-000178	CAP-MYLAR,183K,2A,5P	(T)100V 183K	
C460	190.6	87.2	2401-000038	CAP-AL.ELEC,477M.1E	(T)470UF,25V,20%,10x12.5,R-RADIAL	
C461	212.5	128	2201-000291	CAP-CERAMIC,102K,2H,Y5P	1NF,500V,20%,10%,Y5P,DISC-RADIA	
C462	148.7	94.4	2403-000187	CAP-TANTAL,336K,1D	(T)33UF,20V,10%,DIP-RADIAL,5MM	
C463	148.8	103.8	2403-000187	CAP-TANTAL,336K,1D	(T)33UF,20V,10%,DIP-RADIAL,5MM	
C464	155.8	103.8	2403-000187	CAP-TANTAL,336K,1D	(T)33UF,20V,10%,DIP-RADIAL,5MM	
C465	151	26.6	2301-001043	C-FILM,MPE-PPF	2.2nF,5%,1.6KV,TP,29x13x22.5,2	
C466	169.2	15.9	2202-000349	CAP-CERAMIC,103J,2A	10NF,100V,5%,X7R,RE-RADIAL,DIPP	
C467	164.4	26.5	2301-001043	C-FILM,MPE-PPF	2.2nF,5%,1.6KV,TP,29x13x22.5,2	⚠
C468	205.6	21.8	2305-000231	CAP-MPETP,105K,1J,5P	(T)63V 105K	
C469	216.2	63.5	2301-001042	C-FILM,MPPF	68nF,5%,400V,TP,17.5x8.5x17.5	⚠
C470	194	63	2301-001042	C-FILM,MPPF	68nF,5%,400V,TP,17.5x8.5x17.5	⚠
C471	147.1	56.5	2201-000110	C-CERAMIC,DISC	1.5nF,10%,500V,Y5P,10x5MM,5,TP	
C472	232.5	24	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C473	227.3	69	2306-000263	C-FILM,MPPF	770nF,5%,250V,26.5x17.5mm,22.5	
C474	259.5	24	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C475	241	70.3	2306-000149	CAP-MPPF,105J,2G	400V 105J	⚠
C476	282	24	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C477	266.6	67.4	2306-001023	C-FILM,MPPF	390nF,5%,400V,20.5x15x24mm,10mm	⚠
C478	297	24	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C479	279.2	69.9	2303-000179	CAP-PPF,224J,2G	400V 224J	⚠
C480	309.3	24	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C481	299.9	59.2	2303-000111	CAP-PPF,104J,2G	400V 104J	⚠
C483	311.8	54	2303-000249	C-FILM,PPF	47nF,10%,630V,24x18mm,20.5mm,B	⚠
C484	311.2	153	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C485	308.2	146	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C486	156.5	198	2201-000138	CAP-CERAMIC,101K,1H,Y5P	100PF,50V,10%,Y5P,DISC-RADI	
C487	183	195.2	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C488	173.5	158.4	2401-000048	CAP-AL.ELEC,476M,1E	(T)25V 47M	
C489	167	158.4	2401-000048	CAP-AL.ELEC,476M,1E	(T)25V 47M	
C490	160.2	159.9	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C491	185.7	179.7	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C492	183.5	153.3	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C494	241.8	216.9	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C495	254.8	195.8	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C496	262	202.8	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C497	275.4	217.2	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C498	279.8	187	2305-000231	CAP-MPETP,105K,1J,5P	(T)63V 105K	
C499	306.5	80	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C502	114.7	148.4	2401-000048	CAP-AL.ELEC,476M,1E	(T)25V 47M	
C503	99.6	158.7	2201-000638	CAP-CERAMIC,681K,3A,DISC	(T)680PF,1KV,10%,Y5P,DISC-RADIA	
C504	99.3	111.7	2403-000187	CAP-TANTAL,336K,1D	(T)33UF,20V,10%,DIP-RADIAL,5MM	
C505	89.3	151.8	2305-000291	CAP-MPETP,224J,1J,5P	(T)63V 224J	
C506	54.7	94.9	2201-000131	CAP-CERAMIC,101K,3D,DISK	100pF,2KV,10%,Y5P,DISK-RADI	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
C507	88.8	134.3	2306-001024	C-FILM,MPPF	700pF,5%,1600V,29x8.5x17mm,20mm,B	⚠
C508	45.3	143	2401-000040	(T)250V 47M	CAP-AL.ELEC,476M,2E,105C,13X25	
C509	69.1	96.7	2306-000187	CAP-MPPF,334J,2G	400V 334J	⚠
C510	59	112.3	2201-000014	CAP-CERAMIC,331K,3A,DISC	330PF,1KV,10%,Y5P,DISC-RADIAL	⚠
C511	40.3	156.1	2401-000026	CAP-AL.ELEC,335M,1H	(T)50V 3.3M	
C512	70.8	145.6	2401-000028	CAP-AL.ELEC,106M,1H	(T)50V 10M	
C513	36.7	168.1	2401-000025	CAP-AL.ELEC,107M,1C	(T)16V 100M	
C514	80.2	145.6	2401-000048	CAP-AL.ELEC,476M,1E	(T)25V 47M	
C515	64.5	163.3	2201-000643	CAP-CERAMIC,681K,1H,Y5P	680PF,50V,10%,10%,Y5P,DISC-RADI	
C516	59.5	179.5	2305-000291	CAP-MPETP,224J,1J,5P	(T)63V 224J	
C517	58.8	163.2	2305-000162	CAP-MPETP,103K,2A,5P	(T)100V 103K	
C518	43.7	168.1	2401-001166	CAP-AL.ELEC,336M,1C	(T)16V 33M	
C519	26.8	41.3	2305-000138	CAP-MPETP,104J,1J,5P	(T)63V 104J	
C520	41.6	40.4	2401-000966	CAP-AL.ELEC,226M,1H	(T)50V 22M	
C521	35.7	35.4	2305-000162	CAP-MPETP,103K,2A,5P	(T)100V 103K	
C522	48.7	52.9	2401-000966	CAP-AL.ELEC,226M,1H	(T)50V 22M	
C523	45.7	67	2401-000638	CAP-AL.ELEC,225M,2V,105C	(T)350V 2.2M	⚠
C524	31.8	67	2401-000638	CAP-AL.ELEC,225M,2V,105C	(T)350V 2.2M	⚠
C525	32.8	29.5	2401-000028	CAP-AL.ELEC,106M,1H	(T)50V 10M	
C526	53.3	23.9	2305-000415	CAP-MPETP,473K,2A,5P	(T)100V 473K	
C527	61	12.8	2401-000660	CAP-AL.ELEC,225M,1H	(T)50V 2.2M	
C528	24	131	2401-000966	CAP-AL.ELEC,226M,1H	(T)50V 22M	
C529	134.6	97.8	2201-000552	CAP-CERAMIC,471K,3A,Y5P	470PF,1KV,10%,10%,Y5P,DISC-RADI	⚠
C530			2201-000011	C-CERAMIC,DISC	47pF,5%,50V,CH,TP,6.5X3.0	
C531	116.7	155	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C533	199	120.3	2303-000111	CAP-PPF,104J,2G	400V 104J	⚠
C534	173.5	112.3	2201-000680	C-CERAMIC,DISC	82pF,5%,50V,SL,-,5,TP	
C535	177.5	140.5	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C536	169.5	147	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C537	155	118	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C538	148.8	118	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C539	144.4	171.6	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C541	142.5	160.8	2201-000532	CAP-CERAMIC,472K,1H,Y5P	4.7NF,50V,10%,10%,Y5P,DISC-RADI	
C542	148.3	178.6	2201-000017	CAP-CERAMIC,102K,1H,Y5P	1NF,50V,10%,10%,Y5P,DISC-RADIAL	
C543	148.9	134.4	2202-000319	CAP-CERAMIC,104K,2A	100NF,100V,5%,X7R,RE-RADIAL,DIP	
C544	145.6	129.4	2202-000319	CAP-CERAMIC,104K,2A	100NF,100V,5%,X7R,RE-RADIAL,DIP	
C545	138.8	144.8	2202-000349	CAP-CERAMIC,103J,2A	10NF,100V,5%,X7R,RE-RADIAL,DIPP	
C547	68.6	127.4	2309-000107	CAP-MPE/PP,252J,3C,17.5P	2KV 252J	⚠
C549	84.3	156.8	2305-000138	CAP-MPETP,104J,1J,5P	(T)63V 104J	
C551	180.3	82.4	2202-000349	CAP-CERAMIC,103J,2A	10NF,100V,5%,X7R,RE-RADIAL,DIPP	
C552	205.5	76.8	2301-000013	C-FILM,PEF	4.7nF,5%,100V,10.5x12.5x6.5,5m	
C553	196.2	79.6	2301-000013	C-FILM,PEF	4.7nF,5%,100V,10.5x12.5x6.5,5m	
C554	160.8	96.5	2201-000011	C-CERAMIC,DISC	47pF,5%,50V,SL,5,TP	
C644	46.2	174.7	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C650	86.8	183.5	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C651	37.3	179.4	2401-001576	CAP-AL.ELEC,476M,1H	(T)50V 47M	
C652	34.5	157	2401-000048	CAP-AL.ELEC,476M,1E	(T)25V 47M	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
C653	25.5	152.3	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C654	51	231.6	2401-000697	C-AL	2200uF,20%,16V,WT,12.5x25mm,5m	
C655	55	175	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C656	50.7	179.5	2401-000048	CAP-AL.ELEC,476M,1E	(T)25V 47M	
C657	75.7	162.1	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C658	84.7	162.8	2401-000048	CAP-AL.ELEC,476M,1E	(T)25V 47M	
C659	88.9	162	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C660	130.3	193.3	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C661	91.7	190.3	2401-000048	CAP-AL.ELEC,476M,1E	(T)25V 47M	
C671	65.6	231.6	2401-000703	C-AL	2200uF,20%,25V,GP,12.5x25mm,5m	
C801	289.3	212.3	2401-001016	CAP-AL.NP-ELEC,335M	(T)50V 3.3M,1H,6X11	
C802	289.3	222.8	2401-001016	CAP-AL.NP-ELEC,335M	(T)50V 3.3M,1H,6X11	
C803	318.4	204.6	2401-000048	CAP-AL.ELEC,476M,1E	(T)25V 47M	
C804	314.6	206	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C805	304.9	185.5	2401-000048	CAP-AL.ELEC,476M,1E	(T)25V 47M	
C806	304.2	190	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C807	317.3	208	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C808	295.2	187.6	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C809	318.7	185.5	2401-000943	C-AL	22uF,20%,25V,GP,6.3x7mm,2.5mm	
CH01	299.3	95	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
CH02	296	95	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
CH03	315.1	91	2401-001016	CAP-AL.NP-ELEC,335M	(T)50V 3.3M,1H,6X11	
CH04	218.5	135.5	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)250V 104J	
CH05	309.6	83.9	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
CN203	297.5	232.8	3711-003260	CONNECTOR-HEADER	BOX,8P,1R,2.5mm,ANGLE,SN	
CN220	65.5	210.4	3711-003134	CONNECTOR-HEADER	NOWALL,80P,2R,2.54mm,STRAIGHT	
CN221	4.7	239.2	3711-003242	CONNECTOR-HEADER	NOWALL,56P,2R,2.54mm,STRAIGHT	
CN402	275.3	230.8	3711-000197	CONNECTOR-HEADER	1WALL,3P,1R,2.5mm,STRAIGHT,SN	
CN650	137	230.8	3711-003240	CONNECTOR-HEADER	BOX,15P,1R,2.5mm,STRAIGHT,SN	
CN801	288.3	230.8	3711-000045	CONNECTOR-HEADER	1WALL,4P,1R,2.5mm,STRAIGHT,SN	
D290	297.2	206	0403-000508	DIODE-ZEN,BZX79C5V6	0.5W,5MA,DO35	
D291	301.9	206	0403-000508	DIODE-ZEN,BZX79C5V6	0.5W,5MA,DO35	
D292	307.1	206	0403-000508	DIODE-ZEN,BZX79C5V6	0.5W,5MA,DO35	
D293	317	218.8	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D294	312	206	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D301	238.8	183.9	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D302	249.5	194.9	0402-000128	DIODE-REC,1N4002,DO-41	70V,1A,1.1V,1A,2000NS,0.5A	
D409	264.3	130	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D410	289.8	119	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D411	283.3	79	0402-000274	DIODE-REC,UF4004,DO-41	400V,1A,1V,1A,50NS,0.5A	
D412	266	76.3	0402-000249	DIODE-REC,RG4	1.5A,1.8V,3A,100NS,0.1A	
D413	275.3	91.3	0402-000274	DIODE-REC,UF4004,DO-41	400V,1A,1V,1A,50NS,0.5A	
D414	305.8	109.5	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D415	311.3	115.7	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D422	167.1	101.9	0402-000126	DIODE-REC,1N4001GP,DO-41	50V,1A,1.1V,1A	
D423	170.8	90.9	0402-000126	DIODE-REC,1N4001GP,DO-41	50V,1A,1.1V,1A	
D424	174.6	90.9	0402-000126	DIODE-REC,1N4001GP,DO-41	50V,1A,1.1V,1A	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
D425	244.5	7.8	0402-000445	DIODE-REC,MUR10150E	ST 02169-205-180	
D426	314.5	145	0403-000005	DIODE-ZEN,UZ-5.1B,DO-35	0.5W,10MA	
D427	179.1	202.3	0403-000005	DIODE-ZEN,UZ-5.1B,DO-35	0.5W,10MA	
D428	170	202.2	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D429	199.6	45.5	0402-000016	DIODE-REC,UF5404,DO201AD	1V,3A,50NS	
D430	299.5	127	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D431	158.5	51.8	0402-000246	RG2A,600V,1A,DO-201	DIODE-RECTIFIER	
D502	106.4	117.6	0402-000126	DIODE-REC,1N4001GP,DO-41	50V,1A,1.1V,1A	
D503	110.2	128.6	0402-000126	DIODE-REC,1N4001GP,DO-41	50V,1A,1.1V,1A	
D504	102.7	128.6	0402-000126	DIODE-REC,1N4001GP,DO-41	50V,1A,1.1V,1A	
D505	90	142	0402-000444	DIODE-RECTIFIER	MUR10120E,1200V,10A,TO-220AC	
D506	73	125.1	0402-000328	DIODE-RECTIFIER	31DF6,600V,3A,DO-201AD	
D507	93	116.2	0402-000328	DIODE-RECTIFIER	31DF6,600V,3A,DO-201AD	
D508	53	106.7	0402-000017	DIODE-RECTIFIER	RGP02-12,1200V,0.5A,DO-204AL	
D509	46	114.5	0402-000249	DIODE-REC,RG4	1.5A,1.8V,3A,100NS,0.1A	
D510	56.3	138.3	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D511	45.1	149.7	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D512	51.8	150	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D513	48.6	171	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D514	22	59.5	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D515	27.5	56	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D516	52.3	69	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D517	54.1	83.4	0402-000012	DIODE-REC,UF4007	ST 02169-218-100	
D520	28.6	16	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D521	26	16	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D524	175.5	137	0402-000274	DIODE-REC,UF4004,DO-41	400V,1A,1V,1A,50NS,0.5A	
D525	169.5	136.5	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D526	167	126	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D527	160.5	107.3	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D528	146	118	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D529	146	107.3	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D530	152.3	107.3	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D531	118.5	181.4	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D532	154	161.5	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D533	154	178.5	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D534	88.6	120.4	0402-000017	DIODE-RECTIFIER	RGP02-12,1200V,0.5A,DO-204AL	
D535	202.4	90.4	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D540	139	107.9	0402-000012	DIODE-REC,UF4007,DO-41	ST 02169-218-100	
D541	31.3	120.3	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D542	145	203.8	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D543	153	201.3	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D544	145	198.8	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D545	145.5	216.4	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D546	112	219.4	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D547	137.1	224.2	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D650	77.3	227.5	0402-000249	DIODE-REC,RG4	1.5A,1.8V,3A,100NS,0.1A	
D651	122	236.8	0402-000126	DIODE-REC,1N4001GP,DO-41	50V,1A,1.1V,1A	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
D652	97.3	234.5	0402-000249	DIODE-REC,RG4	1.5A,1.8V,3A,100NS,0.1A	
GT301	231.2	144.2	BH71-40300A	PIN-HINGE	BRASS,D2.36,SN,HEAT/SINK	
GT302	249.2	144.3	BH71-40300A	PIN-HINGE	BRASS,D2.36,SN,HEAT/SINK	
GT303	241.1	144.2	BH71-40300A	PIN-HINGE	BRASS,D2.36,SN,HEAT/SINK	
GT401	182.3	25.6	BH71-40300A	PIN-HINGE	BRASS,D2.36,SN,HEAT/SINK	
GT402	182.3	35.6	BH71-40300A	PIN-HINGE	BRASS,D2.36,SN,HEAT/SINK	
GT403	182.3	43.6	BH71-40300A	PIN-HINGE	BRASS,D2.36,SN,HEAT/SINK	
GT404	182.3	51.5	BH71-40300A	PIN-HINGE	BRASS,D2.36,SN,HEAT/SINK	
IC303	244.8	178.7	1204-000308	IC-LIN,8172,VERTICAL	7	⚠
IC304	194.5	138.8	1203-000247	IC-LIN,7815,REGULATOR	TO-220,2,15V	
IC406	285	125	1203-000307	IC-LIN,3842,PWM CONTROL	DIP,8,300MIL	⚠
IC407	285	112.5	1003-001066	IC-CURRENT DRIVER	IR2125,DIP,8P,150MIL,SINGLE,3	⚠
IC409	313.8	164.3	0801-000258	IC-MOS,14504B,SHIFTER	DIP,16,HEX	⚠
IC410	165.3	161.5	1201-000010	IC-OP AMP	2030,PENTAWATT,5P,SINGLE,C	
IC411	259.5	224.5	1201-000010	IC-OP AMP	2030,PENTAWATT,5P,SINGLE,C	⚠
IC412	303.5	91	1201-001034	IC-OP AMP	272,DIP,8P,150MIL,DUAL,PLAST	⚠
IC501	74.3	157.6	1203-000182	IC-POSI.ADJUST REG.	494,DIP,16P,300MIL,PLASTIC	⚠
IC502	46.6	40.4	1203-000002	IC-LIN,431,REGULATOR	TO-92,3,36V(T)-SIMPLE	
IC504	113.1	155.8	1203-000002	IC-LIN,431,REGULATOR	TO-92,3,36V(T)-SIMPLE	
IC505	165.5	140	1203-000002	IC-LIN,431,REGULATOR	TO-92,3,36V(T)-SIMPLE	
IC506	139.3	155.8	1203-000002	IC-LIN,431,REGULATOR	TO-92,3,36V(T)-SIMPLE	
IC603	57.8	189.2	1203-000001	IC-LIN,7805,REGULATOR	TO-220,3,5V	
IC604	79.5	168.2	1203-000001	IC-LIN,7805,REGULATOR	TO-220,3,5V	
IC605	117.1	191.9	1203-000442	IC-LIN,7812,REGULATOR	TO-220,2,12V	
IC651	25.6	160.5	1203-000442	IC-LIN,7812,REGULATOR	TO-220,2,12V	
IC801	313.8	201	1201-000434	IC-OP AMP	272,DIP,16P,DUAL,PLASTIC,2	⚠
IC802	313.8	180.6	1201-000434	IC-OP AMP	272,DIP,16P,DUAL,PLASTIC,2	⚠
L401	306.3	64.5	BH27-20342M	COIL	4.7UH,25%,DR6.5x7.5,BULK	
L402	194.9	72.8	BH27-20342Z	COIL-CHOKE	66UH,15%,DR8*11,BULK	
L404	200.4	154	BH27-20342N	COIL	90UH,15%,DR8x8,BULK	
L501	55.2	51.2	2701-000154	INDUCTOR-AXIAL,220UH	FIX,220UH,10%,4X10.5MM	
Q305	230.8	190.8	0501-000411	TR-PNP,MPS2907A,TO-92,EBC	0.625W,60V,60V,5V,0.6A	
Q306	278.5	161.3	0501-000412	TR-NPN,MPSA42,TO-92,EBC	0.625W,300V,300V,6V,0.5A	
Q401	291.3	164.3	0501-000483	TR-NPN,MPS2222A,TO-92,EBC	0.625W,75V,40V,6V,0.6A	
Q412	283.3	146.8	0501-000492	TR-NPN,MPS3646,TO-92,EBC	40V,15V,5V,0.3A	
Q413	302.8	102	0501-000492	TR-NPN,MPS3646,TO-92,EBC	40V,15V,5V,0.3A	
Q414	283	97	0505-000023	FET-SILICON	IRF740,N,400V,10A,0.55ohm,125W	
Q415	265.5	103	0501-000416	TR-PNP,MPSA92,TO-92,EBC	300V,300V,5V,0.5A	⚠
Q416	259.6	103	0501-000416	TR-PNP,MPSA92,TO-92,EBC	300V,300V,5V,0.5A	⚠
Q417	302	112.5	0501-000492	TR-NPN,MPS3646,TO-92,EBC	40V,15V,5V,0.3A	
Q421	207.5	133.5	0505-000128	FET-N,IRF610,TO-220AB,GDS	43W,200V,3.3A	
Q422	184.5	7.8	0502-000364	TR-NPN,MJL16218,TO-3PBL	170W,1500V,650V,8V,15A	
Q423	205.5	27.2	0505-000131	FET-SILICON	IRF640,N,200V,18A,0.18ohm,125W	
Q424	232.5	27.2	0505-000131	FET-SILICON	IRF640,N,200V,18A,0.18ohm,125W	
Q425	259.6	27.2	0505-000131	FET-SILICON	IRF640,N,200V,18A,0.18ohm,125W	
Q426	282	27.3	0505-000131	FET-SILICON	IRF640,N,200V,18A,0.18ohm,125W	
Q427	297	27.3	0505-000131	FET-SILICON	IRF640,N,200V,18A,0.18ohm,125W	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
Q428	309.3	27.3	0505-000131	FET-SILICON	IRF640,N,200V,18A,0.18ohm,125W	
Q429	163.1	203.1	0501-000412	TR-NPN,MPSA42,TO-92,EBC	0.625W,300V,300V,6V,0.5A	⚠
Q431	302.3	124.8	0501-000411	TR-PNP,MPS2907A,TO-92,EBC	0.625W,60V,60V,5V,0.6A	
Q502	44.5	106.7	0505-000023	FET-SILICON	IRF740,N,400V,10A,0.55ohm,125W	
Q503	105.3	156.5	0505-000128	FET-N,IRF610,TO-220AB,GDS	43W,200V,3.3A	
Q504	117.5	106.6	0502-000422	TR-NPN,MJF16212,340B-03	ST 02149-301-640	
Q506	65.5	145.4	0501-000411	TR-PNP,MPS2907A,TO-92,EBC	0.625W,60V,60V,5V,0.6A	
Q507	49	151.1	0501-000483	TR-NPN,MPS2222A,TO-92,EBC	0.625W,75V,40V,6V,0.6A	
Q508	31.5	35.5	0501-000411	TR-PNP,MPS2907A,TO-92,EBC	0.625W,60V,60V,5V,0.6A	
Q509	23.1	22.1	0501-000411	TR-PNP,MPS2907A,TO-92,EBC	0.625W,60V,60V,5V,0.6A	
Q510	23	121.8	0501-000586	TR-NPN,KSC945,TO-92,EBC	0.25W,60V,50V,5V,0.15A	
Q512	125.8	145	0502-000174	TR-NPN,2SC3675,TO-220,BCE	10W,1500V,900V,5V,0.1A	⚠
Q513	169	107.3	0501-000411	TR-PNP,MPS2907A,TO-92,EBC	0.625W,60V,60V,5V,0.6A	
Q514	163.8	107.3	0501-000411	TR-PNP,MPS2907A,TO-92,EBC	0.625W,60V,60V,5V,0.6A	
Q515	166.5	129.5	0501-000483	TR-NPN,MPS2222A,TO-92,EBC	0.625W,75V,40V,6V,0.6A	
Q516	153.3	129.5	0501-000483	TR-NPN,MPS2222A,TO-92,EBC	0.625W,75V,40V,6V,0.6A	
Q517	149.6	143.2	0501-000483	TR-NPN,MPS2222A,TO-92,EBC	0.625W,75V,40V,6V,0.6A	
Q518	142.9	143.2	0501-000483	TR-NPN,MPS2222A,TO-92,EBC	0.625W,75V,40V,6V,0.6A	
Q519	125.3	174	0501-000412	TR-NPN,MPSA42,TO-92,EBC	0.625W,300V,300V,6V,0.5A	
Q520	187	191.9	0502-000351	TR-PNP,TIP30C,TO-220	ST 02149-302-920	
Q521	152.1	192	0502-000348	TR-NPN,TIP29,TO-220,BCE	2W,100V,100V,5V,1A	
Q522	199.5	85	0501-000586	TR-NPN,KSC945,TO-92,EBC	0.25W,60V,50V,5V,0.15A	
R290	294.9	214	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R291	299.6	214	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R292	304.8	214	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R324	245.5	194.9	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R325	235.9	183.9	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R326	242	195	2001-000072	REF-CF,22K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R327	271.5	162	2001-000245	REF-CF,1.5,5%,1/2W	350V,-350 TO +350PPM/C,R-AXIAL	
R328	261.2	163.2	2003-000443	R-METAL OXIDE(S)	1.8Kohm,5%,3W,AA,TP,6x16mm	
R329	267.3	147	2003-000411	REF-MO,0.82,5%,2W(S	500V,-200 TO +200PPM/C,R-AXIAL	
R330	255.3	161.8	2001-000042	REF-CF,1K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R340	275	155.5	2001-000889	REF-CF,6.8K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R341	277.8	165	2001-000072	REF-CF,22K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R342	280.3	165	2001-000644	REF-CF,330K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R343	282.3	162	2001-000054	REF-CF,3.9K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R344	227	150.5	2003-000699	R-METAL OXIDE(S)	470ohm,5%,1W,AA,TP,3.3x9mm	
R401	287.3	138.5	2001-000631	R-CARBON	30Kohm,5%,1/4W,AA,TP,2.4x6.4mm	
R402	293.5	129.8	2001-000069	REF-CF,12K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R403	296	131	2001-000083	R-CARBON	82Kohm,5%,1/6W,AA,TP,1.8x3.2mm	
R404	306.3	168.5	2001-000496	R-CARBON	20Kohm,5%,1/6W,AA,TP,1.8x3.2mm	
R405	288.5	164.3	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R430	297.3	119	2001-000091	REF-CF,220K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R431	306.3	40.5	2004-000698	REF-MF,3.3K,1%,1/4W	250V,-100 TO +100PPM/C,R-AXIAL	
R432	316	68	2004-000728	REF-MF,3.9K,1%,1/4W	250V,-100 TO +100PPM/C,R-AXIAL	
R433	173.5	56.2	2003-000807	R-METAL OXIDE(S)	82ohm,5%,2W,AA,TP,4x12mm	⚠
R434	315.5	71	2001-001024	REF-CF,910,5%,1/4W	250V,-1300 TO +350PPM/C,R-AXIAL	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
R435	308.5	117.5	2004-000698	REF-MF,3.3K,1%,1/4W	250V,-100 TO +100PPM/C,R-AXIAL	
R440	285	101.3	2001-000110	REF-CF,10,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R462	266.8	138	2001-000538	REF-CF,24K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R463	308.8	103.5	2001-000562	REF-CF,27K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R464	257.8	145	2001-000053	REF-CF,3.3K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R465	303	152.5	2001-000046	REF-CF,1.8K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R466	311.3	103.5	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R467	292.3	119	2001-000963	REF-CF,75K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R468	306.3	103.5	2001-000923	REF-CF,680,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R470	278.5	138	2001-000069	REF-CF,12K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R471	276	138	2001-000051	REF-CF,2.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R473	306.5	138	2001-000079	REF-CF,56K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R474	298.5	138	2001-000082	REF-CF,68K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R475	303.5	131	2001-000088	REF-CF,120K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R476	312.8	135.2	2001-000110	REF-CF,10,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R477	292.8	80	2001-000110	REF-CF,10,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R478	286.8	90	2001-000110	REF-CF,10,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R479	279	76.3	2005-001010	R-WIRE WOUND	0.68ohm,5%,1W,AA,TP,3.3x9mm	
R480	260.3	76.3	2005-000163	R-WIRE WOUND,NON	0.18ohm,5%,2W,AA,BK,4x12mm	
R481	261.3	112	2001-000505	REF-CF,220K,5%,1/2W	350V,-600 TO -150PPM/C,R-AXIAL	
R482	265	112	2001-000042	REF-CF,1K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R483	263.5	80.5	2001-000042	REF-CF,1K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R484	305.5	153	2001-000033	REF-CF,200,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R494	211.3	149	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R495	215.8	115	2003-000724	R-METAL OXIDE(S)	5.6OHM,5%,3W,AA,TP,6X16MM	
R496	211.4	100	2003-000699	R-METAL OXIDE(S)	470OHM,5%,1W,AA,TP,3.3X9MM	
R497	162.9	19.9	2003-000557	REF-MO,2.2,5%,3W(S	350V,-350 TO +350PPM/C,R-AXIAL	
R498	232.6	17.2	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R503	102.5	170.3	2001-000525	REF-CF,22,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R504	110.3	181.5	2003-000590	REF-MO,22,5%,2W(S	500V,-200 TO +200PPM/C,R-AXIAL	
R505	106.1	166.5		REF-MO,220,5%,1W(S	350V,-350 TO +350PPM/C,R-AXIAL	
R506	115.3	137.3	2003-000557	REF-MO,2.2,5%,3W(S	350V,-350 TO +350PPM/C,R-AXIAL	
R507	34.3	148	3601-001033	FUSE-FERRULE	125V,1.25A,QUICK,ACTING,GLASS	
R508	59	138.3	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R509	75.6	146.2	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R510	80.5	150.5	2001-000057	REF-CF,5.1K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R511	64.2	179.5	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R512	55	161.6	2001-000068	REF-CF,12K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
R513	43.1	181.7	2001-000053	REF-CF,3.3K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	⚠
R514	51.9	162.9	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R515	24.8	56	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R516	77.8	157	2001-000057	REF-CF,5.1K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R517	31	45	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R518	24.8	33	2001-000039	REF-CF,390,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R519	27.5	26.5	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R520	40.1	44	2004-001022	R-METAL	5.6Kohm,1%,1/4W,AA,TP,2.4x6.4m	⚠
R521	36.8	55	2004-000498	REF-MF,2.7K,1%,1/4W	250V,-100 TO +100PPM/C	⚠

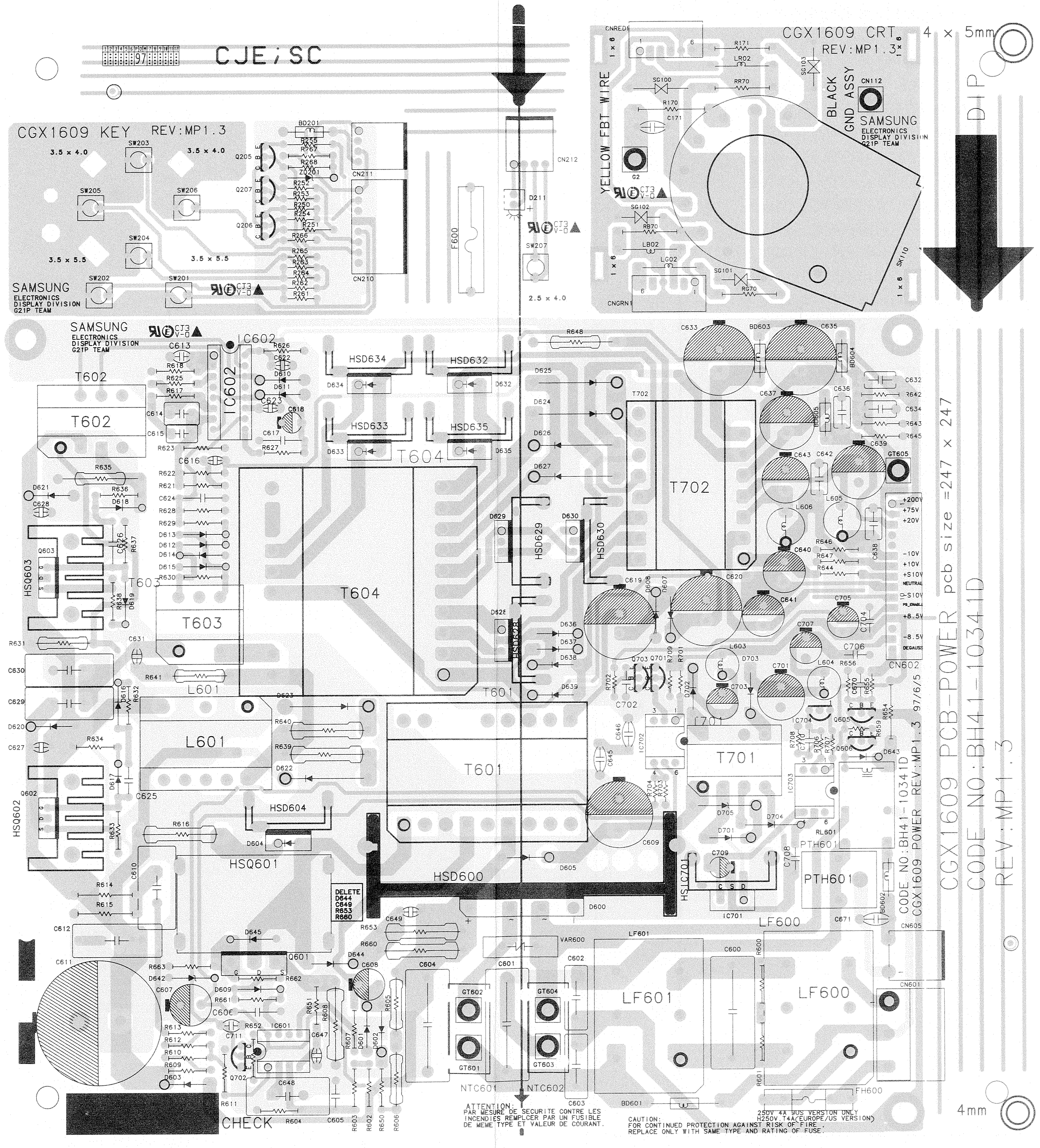
Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
R522	33.8	44	2004-001187	REF-MF,680,1%,1/4W	250V,-100 TO +100PPM/C,R-AXIAL	⚠
R523	58.8	68.3	3601-000006	FUSE-PC BOARD	125V,1A,SLOW ACTING,MOLD,3.2x7	
R525	38.7	58	2001-000096	REF-CF,1M ,5%,1/2W(S	300V,-200 TO +200PPM/C,R-AXIAL	
R526	24.8	59.6	2001-000096	REF-CF,1M ,5%,1/2W(S	300V,-200 TO +200PPM/C,R-AXIAL	
R527	46.4	29.7	2001-000054	REF-CF,3.9K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	⚠
R528	43	29.7	2001-001030	REF-CF,91K,5%,1/6W	200V,-800PPM/C,R-AXIAL	⚠
R529	39.8	23.2	2001-000963	REF-CF,75K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	⚠ ⚡
R530	49.6	23.2	2001-000688	REF-CF,390K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R531	22	42	2001-000086	REF-CF,100K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R532	22	45	2001-000074	REF-CF,33K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R533	36.8	23.2	2001-000923	REF-CF,680,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R534	22	33	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R535	23.8	136.5	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R537	61.9	146.6	2001-000456	REF-CF,2.2,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R539	120	120	2001-001052	R-CARBON(S)	1.5Mohm,5%,1/2W,AA,TP,2.4x6.4m	
R540	141.1	92.9	2003-001098	R-METAL/OXIDE(S)	22Kohm,5%,3W,AT,TP,6x16mm	
R541	72	90.8		REF-MO,100K,5%,1W(S	350V,-200 TO +200PPM/C,R-AXIAL	
R542	91.6	90.8		REF-MO,100K,5%,1W(S	350V,-200 TO +200PPM/C,R-AXIAL	
R543	121.8	139.9	2001-000432	REF-CF,1M ,5%,1/4W	250V,-1000 TO -500PPM/C,R-AXIAL	
R544	119.2	150.9	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R545	119.5	155.1	2001-000113	R-CARBON	18Kohm,5%,1/4W,AA,TP,2.4x6.4mm	
R546	122	155	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R547	127.2	155	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R548	124.5	161.5	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R550	174.8	147	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R551	172.3	140.5	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R552	161.6	149	2001-000086	REF-CF,100K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R553	162.3	132.3	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R554	173.5	115.5	2001-001071	REF-CF,12K,5%,1/2W(S	300V,-200 TO +200PPM/C,R-AXIAL	
R555	172	128.5	2001-000072	REF-CF,22K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R556	157.8	118	2001-000404	R-CARBON	180ohm,5%,1/6W,AA,TP,1.8x3.2mm	
R557	157.8	115.3	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R558	155	115.3	2001-000089	REF-CF,150K,5%,1/6W	150V,-1300 TO + 350PPM/C,R-AXIA	
R559	163.1	126	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R560	148.8	115.3	2001-000889	REF-CF,6.8K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R561	152.3	118	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R562	152.8	142.3	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R563	146.5	147.6	2001-000367	REF-CF,15K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R564	28.8	117.3	2001-000028	REF-CF,100,5%,1/2W(S	350V,-1300 TO +350PPM/C,R-AXIAL	
R565	156.4	128.8	2001-000323	R-CARBON	120ohm,5%,1/4W,AA,TP,2.4x6.4mm	
R566	148.8	161.5	2001-000072	REF-CF,22K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R567	146.3	155	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R568	155.1	142.3	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R569	141.4	178.6	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R570	151.3	164.5	2001-000530	REF-CF,240K,5%,1/4W	250V,-1000 TO -500PPM/C,R-AXIAL	
R571	151.5	172	2001-000072	REF-CF,22K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R572	142	152	2001-000072	REF-CF,22K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
R573	132.3	161.5	2003-000443	R-METAL OXIDE(S)	1.8Kohm,5%,3W,AA,TP,6x16mm	
R574	137.2	166	2003-000626	REF-MO,3.3K,5%,2W(S	350V,-350 TO +350PPM/C,R-AXIAL	
R575	115.8	181.5	2001-000042	REF-CF,1K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R576	121.2	181.5	2001-000042	REF-CF,1K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R577	160.4	128.8	2001-000333	REF-CF,12,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R579	51.4	44	2001-001093	REF-CF,2.2K,5%,1/2W(S	300V,-200 TO +200PPM/C,R-AXIAL	
R580	163.9	101.9	2001-000070	R-CARBON	15Kohm,5%,1/4W,AA,TP,2.4x6.4mm	
R581	113.4	177.5	2001-000072	REF-CF,22K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R582	205.5	91.8	2001-001116	R-CARBON(S)	27ohm,5%,1/2W,AA,TP,2.4x6.4mm	
R583	157.8	142.2	2001-000374	R-CARBON	15ohm,5%,1/4W,AA,TP,2.4x6.4mm	
R584	134.3	143	2003-000587	REF-MO,22,5%,1W(S	350V,-350 TO +350PPM/C,R-AXIAL	
R585	130.3	158	2003-000587	REF-MO,22,5%,1W(S	350V,-350 TO +350PPM/C,R-AXIAL	
R670	24	181.8	2003-000411	REF-MO,0.82,5%,2W(S	500V,-200 TO +200PPM/C,R-AXIAL	
R671	30.6	189.3	2003-000411	REF-MO,0.82,5%,2W(S	500V,-200 TO +200PPM/C,R-AXIAL	
R672	65.5	191.5	2003-000411	REF-MO,0.82,5%,2W(S	500V,-200 TO +200PPM/C,R-AXIAL	
R673	102.3	194.8	2003-000411	REF-MO,0.82,5%,2W(S	500V,-200 TO +200PPM/C,R-AXIAL	
R674	118	197.8	2003-000411	REF-MO,0.82,5%,2W(S	500V,-200 TO +200PPM/C,R-AXIAL	
R801	319.5	226.8	2001-000057	REF-CF,5.1K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R802	319.2	190	2001-000075	REF-CF,39K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R803	316.9	196.5	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R804	319.7	207.9	2001-000877	R-CARBON	6.2Kohm,5%,1/6W,AA,TP,1.8x3.2m	
R805	289	196.5	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R806	286	203	2003-000455	REF-MO,100,5%,2W(S	500V,-200 TO +200PPM/C,R-AXIAL	
R807	291.8	203	2003-000455	REF-MO,100,5%,2W(S	500V,-200 TO +200PPM/C,R-AXIAL	
R808	295.2	190	2001-000057	REF-CF,5.1K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R809	319.3	180.4	2001-000075	REF-CF,39K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R810	316.8	173.4	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R811	295.2	185.2	2001-000877	R-CARBON	6.2Kohm,5%,1/6W,AA,TP,1.8x3.2m	
R812	289	177.5	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R813	291.8	184	2003-000455	REF-MO,100,5%,2W(S	500V,-200 TO +200PPM/C,R-AXIAL	
R814	286	184	2003-000455	REF-MO,100,5%,2W(S	500V,-200 TO +200PPM/C,R-AXIAL	
RH01	232.5	21	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
RH03	259.5	21	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
RH05	282	21	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
RH07	297	21	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
RH09	309.3	21	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
RH11	300.3	146	2001-000553	REF-CF,270,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RH12	142	201.4	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RH13	159.8	203.1	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RH14	193.7	170.4	2001-000042	REF-CF,1K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
RH15	176	202.3	2001-000069	REF-CF,12K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RH16	172.8	194.1	2001-000053	REF-CF,3.3K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RH17	188.3	166.5	2003-000471	REF-MO,10,5%,2W(S	350V,-350 TO +350PPM/C,R-AXIAL	
RH18	162.8	159.9	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
RH19	190.1	170.4	2001-000456	REF-CF,2.2,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
RH20	180.4	159.8	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RH21	177.6	159.9	2001-000074	REF-CF,33K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	

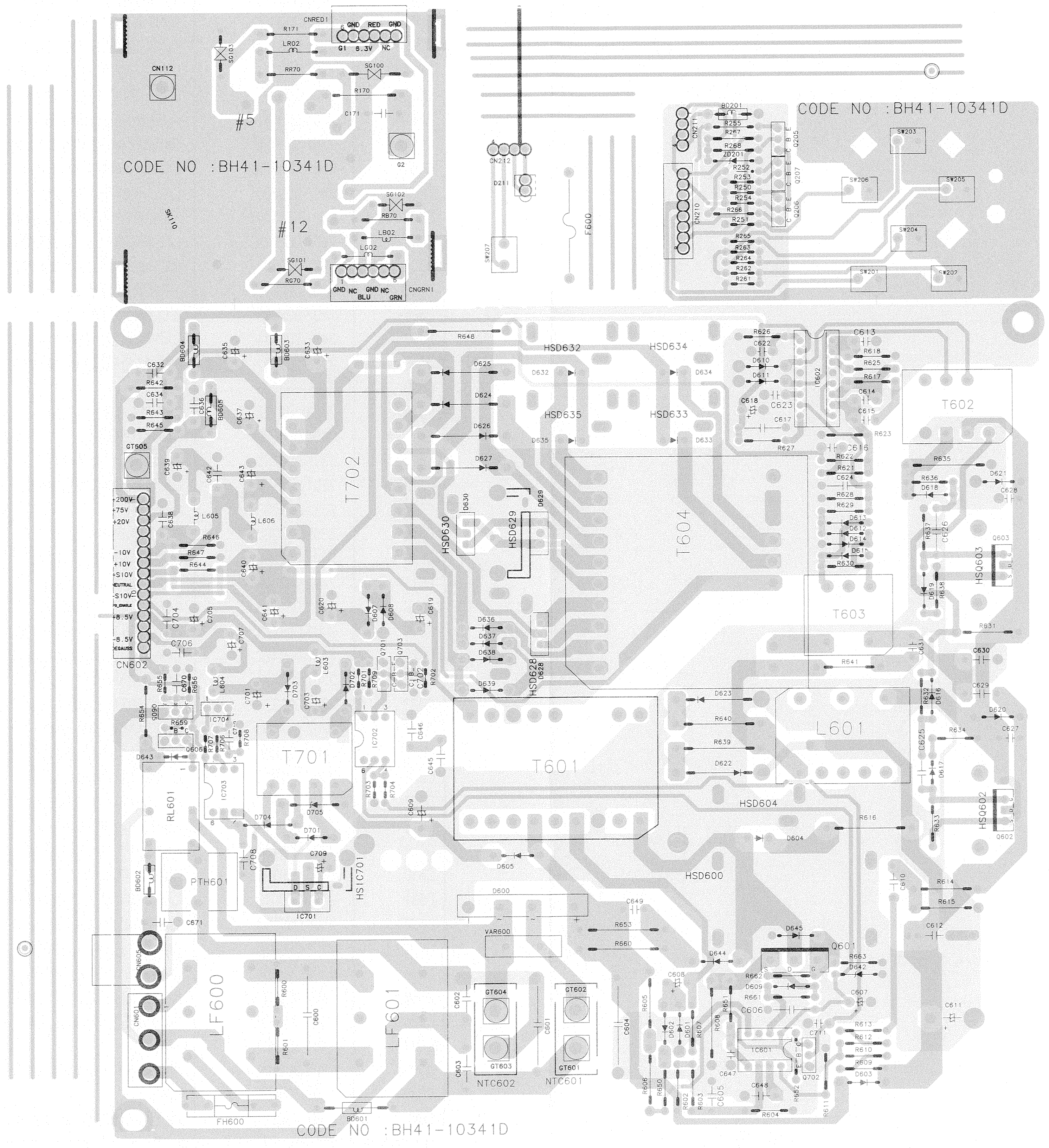
Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
RH22	192.7	166.5		REF-MO,100,5%,1W(S	350V,-200 TO +200PPM/C,R-AXIAL	
RH23	146.6	81.4	2003-000272	R-METAL OXIDE	330ohm,5%,2W,AA,TP,6x16mm	
RH24	269.7	224.1	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RH25	272.4	224.2	2001-000547	REF-CF,270K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RH26	283	224.3	2003-000690	REF-MO,4.7,5%,2W(S	350V,-200 TO +200PPM/C,R-AXIAL	
RH28	279	224.3	2001-000226	REF-CF,1.2,5%,1/2W	300V,-200 TO +200PPM/C,R-AXIAL	
RH29	309.3	72	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RH30	306.8	84	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RH31	303.8	80	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
RH32	312	82	2001-000022	REF-CF,33,5%,1/2W(S	300V,-200 TO +200PPM/C,R-AXIAL	
RH33	279.8	195.3	2001-000019	REF-CF,10,5%,1/2W(S	300V,-200 TO +200PPM/C,R-AXIAL	
RH34	259	195.8	2001-000072	REF-CF,22K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RH43	222.6	45.2	2001-000076	REF-CF,47K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
RH44	247.3	45.3	2001-000076	REF-CF,47K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
RH45	270.9	45.3	2001-000076	REF-CF,47K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
RH46	274.9	45.3	2001-000076	REF-CF,47K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
RH47	296.2	33.8	2001-000076	REF-CF,47K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
RH48	315.8	33.5	2001-000076	REF-CF,47K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
RL501	35.2	121.7	3501-000290	RELAY-POWER	12V,530mW,10A,1FormA,15mS,5mS	
RL502	210	91.8	3501-000297	RELAY-POWER	12V,300mW,5A,1FormA1B,10mS,5mS	
SK501	119	69.9	4715-000001	SURGE ABSORBER	1KV,+50-10%	
T401	252	100.5	BH26-30336J	TRANS	1.3MH,12P,EI3530,PM-2	⚠
T403	182.3	94	BH26-30336L	TRANS	5.0MH,10P,ER2828,PL-3,5.0MH/14	⚠
T405	173.7	83.5	BH26-30336S	TRANS	10MH,4P,8.6x19.5,L-81,10MH/2.9	
T406	224.8	112	BH26-30336H	TRANS	1.75MH,12P,EI3530,PM-2	⚠
T501	108.9	134.4	BH26-30304B	TRANS-H/V.BASE DRIVE	CORE/BOBBIN;EI22,CSG9511	⚠
T502	84	62	BH26-10335F	TRANS-FBT	0.5mH,16P,Y265344	⚠
T503	48.7	74.8	BH26-30022A	TRANS	2.5MH,10P,EI2820,SB-5S,40UH	
T504	128.7	135.9	BH26-30336R	TRANS-FOCUS	7.0MH,8P,EI2519,SB-5S,7.0MH/1	
VR501	38.4	16.7	2103-000493	vr3	1/10W	☢
VR502	42.5	10.5	2103-000454	VR-SEMI	50Kohm,25%,0.3W,SIDE	

10-2 Power PCB

10-2-1 Top View


CJE;SC
CGX1609 KEY REV:MP1.3
CGX1609 CRT REV:MP1.3
4 x 5mm
YELLOW FBT WIRE
BLACK GND ASSY
SAMSUNG ELECTRONICS DISPLAY DIVISION G21P TEAM
D.I.P
CGX1609 PCB-POWER pcb size =247 x 247
CODE NO:BH41-10341D
REV:MP1.3
T602
IC602
HSD634
HSD632
HSD633
HSD635
T604
T702
HSQ603
T603
L601
T601
T701
HSQ602
HSD604
HSQ601
HSD600
PTH601
LF600
LF601
GT601
GT602
GT603
GT604
NTC601
NTC602
CHECK
4mm
ATTENTION: PAR MESURE DE SECURITE CONTRE LES INCENDIES REMPLCER PAR UN FUSIBLE DE MEME TYPE ET VALEUR DE COURANT.
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE.
250V 4A 90S VERSION ONLY
H250V T4A(EUROPE/US VERSION)

10-2-2 Bottom View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GND RED GND
G1 6.3V NC
CN112
#5
CODE NO :BH41-10341D
#12
CNGRN1
GND NC GND NC
BLU GRN
CN212
D211
F600
CN211
CN210
CODE NO :BH41-10341D
SW203
SW205
SW206
SW204
SW201
SW207
HSD632
HSD634
HSD635
HSD633
T702
T604
T602
T603
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HSD629
HSD628
CN602
GT605
T701
T601
L601
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HSD603
HSD602
HSIC701
IC701
RL601
PTH601
VAR600
Q601
IC601
GT604
GT602
GT603
GT601
NTC602
NTC601
LF600
LF601
FH600
CODE NO :BH41-10341D

10-2-3 Power PCB Parts

Loc. No.	Code No.	Description	Specification	Remarks
BD201	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
BD601	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
BD602	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
BD603	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
BD604	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
BD605	3301-000011	MAG-CORE,FERRITE,BEAD	1.2UH,3.5_5.7MM,10 OHM	
C171	2201-000154	CAP-CERAMIC,103Z,3D,Y5U	10NF,2KV,-20 TO 80%,-55TO20%,Y5	
C600	2501-000203	CAP-MPAPER,474K,250VAC	470NF,250VAC,10%,X2,RE-RAD,25.4	⚠
C601	2501-000203	CAP-MPAPER,474K,250VAC	470NF,250VAC,10%,X2,RE-RAD,25.4	⚠
C602	2501-000194	CAP-MPAPER,472M,250VAC	4.7NF,250VAC,20%,Y,RE-RADI,10.2	⚠
C603	2501-000194	CAP-MPAPER,472M,250VAC	4.7NF,250VAC,20%,Y,RE-RADI,10.2	
C604	2501-000203	CAP-MPAPER,474K,250VAC	470NF,250VAC,10%,X2,RE-RAD,25.4	⚠
C605	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C606	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C607	2401-000334	CAP-AL.ELEC,107M,1V,105C	(T)35V 100M	
C608	2401-001561	CAP-AL.ELEC,476M,1V,105C	(T)35V 47M	
C609	2401-003195	C-AL	33uF,20%,400V,GP,TP,16x35.5,7	
C610	2303-000122	CAP-PPF,103J,2J,7.5P	(T)630V 103J	⚠
C611	2401-003030	CAP-ALUMINUM	220UF,20%,450V,GP,30x35mm,10mm	⚠
C612	2305-000135	CAP-MPETP,104K,2J	630V 104K	⚠
C613	2201-000472	CAP-CERAMIC,331J,1H,SL	330PF,50V,5%,SL,RADIAL	
C614	2303-000009	C-FILM,PPF	3.3nF,5%,100V,14x11.5mm,7.5mm	
C615	2305-000280	C-FILM,MPEF	220nF,10%,63V,7.5x13.5mm,5mm,T	
C616	2202-000349	C-CERAMIC,MLC-RADIAL	10nF,5%,100V,X7R,5.1x5.1x3.2,5	
C617	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C618	2401-001548	CAP-AL.ELEC,476M,1E	(T)25V 47M,105C,6X11	
C619	2401-001422	CAP-AL.ELEC,477M,1V,105C	(T)35V 470M	
C620	2401-001422	CAP-AL.ELEC,477M,1V,105C	(T)35V 470M	
C622	2202-000470	CAP-CERAMIC,331J,2A	330PF,100V,5%,NPO,RE-RADIAL,DIP	
C623	2202-000321	CAP-CERAMIC,104J,1H	100NF,50V,5%,X7R,RE-RADIAL,DIPP	
C624	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C625	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C626	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C627	2201-000012	CAP-CERAMIC,221K,3A,Y5P	220PF,1KV,10%,10%,Y5P,DISC-RADI	⚠
C628	2201-000012	CAP-CERAMIC,221K,3A,Y5P	220PF,1KV,10%,10%,Y5P,DISC-RADI	⚠
C629	2305-000135	CAP-MPPF,104J,2G,12.5P	630V 104J	⚠
C630	2305-000135	CAP-MPPF,104J,2G,12.5P	630V 104J	⚠
C631	2201-000012	CAP-CERAMIC,221K,3A,Y5P	220PF,1KV,10%,10%,Y5P,DISC-RADI	⚠
C632	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)250V 104J	
C633	2401-000040	CAP-AL.ELEC,476M,2E	(T)250V 47M,105C,13X25	
C634	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)250V 104J	
C635	2401-000237	CAP-AL.ELEC,107M,2A,105C	(T)100V 100M	
C636	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)250V 104J	
C637	2401-000703	C-AL	2200uF,20%,25V,GP,12.5x25mm,5m	
C638	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)250V 104J	
C639	2401-000703	C-AL	2200uF,20%,25V,GP,12.5x25mm,5m	
C640	2401-000814	CAP-AL.ELEC,227M,1C,105C	(T)16V 220M	

Loc. No.	Code No.	Description	Specification	Remarks
C641	2401-000814	CAP-AL.ELEC,227M,1C,105C	(T)16V 220M	
C642	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)250V 104J	
C643	2401-000142	CAP-AL.ELEC,108M.1C	(T)1000UF,16V,20%,105C,10x20,R-RADIAL	
C645	2201-000024	C-CERAMIC,DISC	4.7nF,20%,250VAC,Y5U,16x7,7.5	⚠
C646	2201-000024	C-CERAMIC,DISC	4.7nF,20%,250VAC,Y5U,16x7,7.5	⚠
C647	2202-000517	CAP-CERAMIC,471J,2A	470PF,100V,5%,NPO,RE-RADIAL,DIP	
C648	2306-000164	C-FILM,MPPF	220NF,5%,250V,TP,19X22X10,7.5MM	
C670	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C671	2201-000313	C-CERAMIC,DISC	2.2nF,+80-20%,250VAC,Y5U,9x5,7	
C701	2401-000142	CAP-AL.ELEC,108M.1C	(T)1000UF,16V,20%,105C,10x20,R-RADIAL	
C702	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C703	2401-000037	C-AL	470UF,20%,16V,GP,8x11.5mm,5mm,TP	
C704	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C705	2401-000331	CAP-AL,ELE,107M,1V	(T)35V 100M,8X11.5,105C	
C706	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C707	2401-000331	CAP-AL,ELE,107M,1V	(T)35V 100M,8X11.5,105C	
C708	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C709	2401-001548	CAP-AL.ELEC,476M,1E	(T)25V 47M,105C,6X11	
C710	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C711	2201-000021	C-CERAMIC,DISC	100nF,+80-20%,50V,Y5V,8x3,5,TP	
C712	2305-000291	C-FILM,MPEF	220NF,5%,63V,TP,7.5X13.5MM,5MM	
CN112	BH71-40300A	PIN-HINGE	BRASS,D2.36,SN,HEAT/SINK	
CN210	3711-003260	CONNECTOR-HEADER	BOX,8P,1R,2.5mm,ANGLE,SN	
CN211	3711-003259	CONNECTOR-HEADER	BOX,4P,1R,2.5mm,ANGLE,SN	
CN212	3711-003259	CONNECTOR-HEADER	BOX,4P,1R,2.5mm,ANGLE,SN	
CN601	3711-003381	CONNECTOR-HEADER	1WALL,5P,1R,3.96mm,ANGLE,SN	
CN602	3711-003157	CONNECTOR-HEADER	NOWALL,15P,1R,2.5mm,ANGLE,SN	
CN605	3711-003380	CONNECTOR-HEADER	1WALL,3P,1R,3.96mm,ANGLE,SN	⚠
CNGRN1	3711-001031	CONNECTOR-HEADER	BOX,6P,1R,2.50mm,ANGLE,SN	
CNRED1	3711-001031	CONNECTOR-HEADER	BOX,6P,1R,2.50mm,ANGLE,SN	
D211	0601-001047	LED	ROUND,GRN/YEL,2mm,585nm	
D600	0402-001058	DIODE-BRIDGE	PBS1006G,600V,10A,SIP-4	⚠
D601	0402-000274	DIODE-REC,UF4004,DO-41	400V,1A,1V,1A,50NS,0.5A	
D602	0402-000274	DIODE-REC,UF4004,DO-41	400V,1A,1V,1A,50NS,0.5A	
D603	0402-000006	DIODE-RECTIFIER	1N4007GP,1000V,1A,DO-41	
D604	0402-000231	DIODE-REC,FMG-G26S,FM-20	600V,4A,2.5V,4A,100NS,4A	
D605	0402-000006	DIODE-RECTIFIER	1N4007GP,1000V,1A,DO-41	
D607	0402-000274	DIODE-REC,UF4004,DO-41	400V,1A,1V,1A,50NS,0.5A	
D608	0402-000274	DIODE-REC,UF4004,DO-41	400V,1A,1V,1A,50NS,0.5A	
D609	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D610	0402-001039	DIODE-RECTIFIER	SB020,20V,600mA,MPG06	
D611	0402-001039	DIODE-RECTIFIER	SB020,20V,600mA,MPG06	
D612	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D613	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D614	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D615	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D616	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	

Loc. No.	Code No.	Description	Specification	Remarks
D617	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D618	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D619	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D620	0402-000012	DIODE-REC,UF4007,DO-41	ST 02169-218-100	
D621	0402-000012	DIODE-REC,UF4007,DO-41	ST 02169-218-100	
D622	0402-000328	DIODE-REC,31DF6,DO201AD	600V,3A,1.25V,10uA400nS	
D623	0402-000328	DIODE-REC,31DF6,DO201AD	600V,3A,1.25V,10uA400nS	
D624	0402-000328	DIODE-REC,31DF6,DO201AD	600V,3A,1.25V,10uA400nS	
D625	0402-000328	DIODE-REC,31DF6,DO201AD	600V,3A,1.25V,10uA400nS	
D626	0402-000328	DIODE-REC,31DF6,DO201AD	600V,3A,1.25V,10uA400nS	
D627	0402-000328	DIODE-REC,31DF6,DO201AD	600V,3A,1.25V,10uA400nS	
D628	0402-001020	DIODE-RECTIFIER	FMG-24S,400V,8A,TO-220	
D629	0402-001021	DIODE-RECTIFIER	FMG-24R,400V,8A,TO-220	
D630	0402-001020	DIODE-RECTIFIER	FMG-24S,400V,8A,TO-220	
D632	0402-000230	DIODE-REC,FES8CT,TO-220	150V,8A,0.95V,8A,35NS	
D633	0402-000230	DIODE-REC,FES8CT,TO-220	150V,8A,0.95V,8A,35NS	
D634	0402-000230	DIODE-REC,FES8CT,TO-220	150V,8A,0.95V,8A,35NS	
D635	0402-000230	DIODE-REC,FES8CT,TO-220	150V,8A,0.95V,8A,35NS	
D636	0402-000274	DIODE-REC,UF4004,DO-41	400V,1A,1V,1A,50NS,0.5A	
D637	0402-000274	DIODE-REC,UF4004,DO-41	400V,1A,1V,1A,50NS,0.5A	
D638	0402-000274	DIODE-REC,UF4004,DO-41	400V,1A,1V,1A,50NS,0.5A	
D639	0402-000274	DIODE-REC,UF4004,DO-41	400V,1A,1V,1A,50NS,0.5A	
D642	0403-000415	DIODE-ZEN,ZPD18,DO-35	0.5W,5MA	
D643	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D645	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D701	0402-000012	DIODE-REC,UF4007,DO-41	ST 02169-218-100	
D702	0402-000274	DIODE-REC,UF4004,DO-41	400V,1A,1V,1A,50NS,0.5A	
D703	0402-000274	DIODE-REC,UF4004,DO-41	400V,1A,1V,1A,50NS,0.5A	
D704	0401-000006	DIODE-SIG,BAV21,DO-35	250V,250MA,1V,100MA	
D705	0406-000124	DIODE-TVS	P6KE150A,143/150/158V,600W,DO-204AC	
F600	3601-000455	FUSE-FERRULE	250V,4A,TIME-LAG,GLASS,5.2x20m	
FH600	3602-000001	FUSE-CLIP,5.2X20,30MOHM	800GF,400-800GF	⚠
G2	BH71-40300A	PIN-HINGE	BRASS,D2.36,SN,HEAT/SINK	
GT601	BH71-40300A	PIN-HINGE	BRASS,D2.36,SN,HEAT/SINK	
GT602	BH71-40300A	PIN-HINGE	BRASS,D2.36,SN,HEAT/SINK	
GT603	BH71-40300A	PIN-HINGE	BRASS,D2.36,SN,HEAT/SINK	
GT604	BH71-40300A	PIN-HINGE	BRASS,D2.36,SN,HEAT/SINK	
GT605	BH71-40300A	PIN-HINGE	BRASS,D2.36,SN,HEAT/SINK	
IC601	1203-001068	IC-PWM CONTROLLER	MC34262,DIP,8P,300MIL,PLASTIC,1	⚠
IC602	1204-000022	IC-VIDEO SYSTEM	MC34067P,DIP,16P,255MIL,PLASTI	⚠
IC701	BH13-10334F	IC-HYBRID	PWRTOP202,HYB,3P	
IC702	0604-000004	OPT-COUPL,TR,CQY80NG	50%,90%,250MW,1 ,DIP-6	⚠
IC703	0604-000004	OPT-COUPL,TR,CQY80NG	50%,90%,250MW,1 ,DIP-6	⚠
IC704	1203-000002	IC-LIN,431,REGULATOR	TO-92,3,36V(T)-SIMPLE	
L601	BH26-30336K	TRANS	142UH,10P,EI3026,PL-3,1.3MH/0	⚠
L603	BH27-20342M	COIL-CHOKE4.7	4.7UH,25%,DR6.5*7.5,BULK	
L604	BH27-20342M	COIL-CHOKE4.7	4.7UH,25%,DR6.5*7.5,BULK	

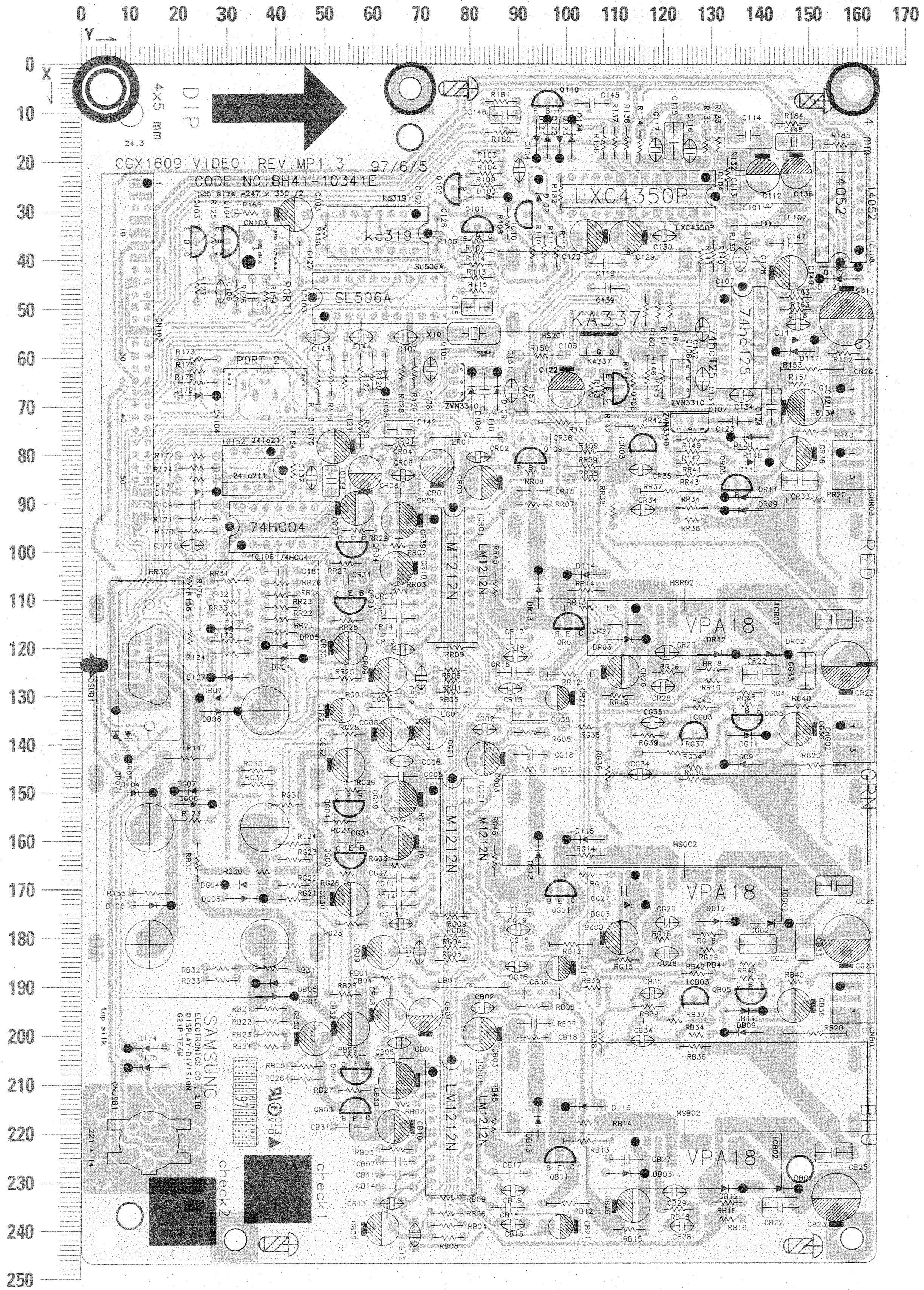
Loc. No.	Code No.	Description	Specification	Remarks
L605	BH27-20310U	COIL-CHOKE	0.18OHM,10.5*16.5,B,1UEW0.	
L606	BH27-20310U	COIL-CHOKE	0.18OHM,10.5*16.5,B,1UEW0.	
LB02	2701-000173	INDUCTOR-AXIAL	330nH,20%,4.2x9.8mm	
LF600	BH27-20342P	COIL	25MH,MIN,SQ3535,BULK	⚠
LF601	BH27-20343J	COIL-LINE FILTER	600UH,10%,T090-16A3,BULK	⚠
LG02	2701-000173	INDUCTOR-AXIAL	330nH,20%,4.2x9.8mm	
LR02	2701-000173	INDUCTOR-AXIAL	330nH,20%,4.2x9.8mm	
NTC601	1404-001021	THERMISTOR-NTC	8ohm,15%,3250K,27.2mW/C,TP	⚠
NTC602	1404-001021	THERMISTOR-NTC	8ohm,15%,3250K,27.2mW/C,TP	⚠
PTH601	1404-000135	THER,10,SQUARE	20%,`5-20% 13.5X17.7MM	⚠
Q205	0501-000483	TR-NPN,MPS2222A,TO-92,EBC	0.625W,75V,40V,6V,0.6A	
Q206	0501-000411	TR-PNP,MPS2907A,TO-92,EBC	0.625W,60V,60V,5V,0.6A	
Q207	0501-000411	TR-PNP,MPS2907A,TO-92,EBC	0.625W,60V,60V,5V,0.6A	
Q601	0505-001025	FET-SILICON	2SK1573,N,600V,15A,0.5ohm,125W	⚠
Q602	0505-000134	FET-N,IRF840,TO-220AB,GDS	125W,500V,8A	⚠
Q603	0505-000134	FET-N,IRF840,TO-220AB,GDS	125W,500V,8A	⚠
Q605	0501-000483	TR-NPN,MPS2222A,TO-92,EBC	0.625W,75V,40V,6V,0.6A	
Q606	0501-000010	TR-NPN,KSC1008,TO-92,ECB	0.8W,80V,60V,8V,0.7A	
Q701	0501-000483	TR-NPN,MPS2222A,TO-92,EBC	0.625W,75V,40V,6V,0.6A	
Q702	0501-000483	TR-NPN,MPS2222A,TO-92,EBC	0.625W,75V,40V,6V,0.6A	
Q703	0501-000483	TR-NPN,MPS2222A,TO-92,EBC	0.625W,75V,40V,6V,0.6A	
R170	2002-000107	REF-CC,100,10%,1/2W	350V,R-AXIA2Q	
R171	2002-000107	REF-CC,100,10%,1/2W	350V,R-AXIA2Q	
R250	2001-000301	REF-CF,10,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R251	2001-001005	R-CARBON	82ohm,5%,1/6W,AA,TP,1.8x3.2mm	
R252	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R253	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R254	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R255	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R261	2001-000040	REF-CF,470,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R262	2001-000040	REF-CF,470,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R263	2001-000040	REF-CF,470,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R264	2001-000040	REF-CF,470,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R265	2001-000040	REF-CF,470,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R266	2001-000040	REF-CF,470,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R267	2001-000065	REF-CF,10K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R268	2001-000110	REF-CF,10,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R600	2001-000506	REF-CF,220K,5%,1/4W	250V,-1000 TO -500PPM/C,R-AXIAL	⚠
R601	2001-000506	REF-CF,220K,5%,1/4W	250V,-1000 TO -500PPM/C,R-AXIAL	⚠
R602	2001-000915	REF-CF,680K,5%,1/4W	250V,-1000 TO -500PPM/C,R-AXIAL	⚠
R603	2001-000915	REF-CF,680K,5%,1/4W	250V,-1000 TO -500PPM/C,R-AXIAL	⚠
R604	2001-000068	REF-CF,12K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
R605	2003-000706	R-METAL OXIDE(S)	47Kohm,5%,2W,AA,TP,4x12mm	
R606	2003-000706	R-METAL OXIDE(S)	47Kohm,5%,2W,AA,TP,4x12mm	
R607	2001-000071	REF-CF,22K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
R608	2005-001013	R-WIRE WOUND,NON	0.14ohm,1%,3W,AA,TP,5.5x15mm	
R609	2004-004044	R-METAL	806KOHM,1%,1/4W,AA,TP,2.4X6.4mm	

Loc. No.	Code No.	Description	Specification	Remarks
R610	2004-004044	R-METAL	806KOHM,1%,1/4W,AA,TP,2.4X6.4mm	
R611	2004-000216	REF-MF,10K,1%,1/4W	250V,-100 TO +100PPM/C,R-AXIAL	⚠
R612	2001-000084	REF-CF,100K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
R613	2001-000084	REF-CF,100K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
R614	2003-000012	R-METAL OXIDE(S)	100Kohm,5%,1W,AA,TP,3.3x9mm	⚠
R615	2003-000012	R-METAL OXIDE(S)	100Kohm,5%,1W,AA,TP,3.3x9mm	⚠
R616	2005-001012	R-WIRE WOUND,NON	0.22ohm,1%,3W,AA,TP,5.5x15mm	⚠
R617	2001-000081	R-CARBON	68Kohm,5%,1/4W,AA,TP,2.4x6.4mm	
R618	2001-000962	REF-CF,75K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
R621	2001-000060	REF-CF,6.8K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R622	2004-004032	R-METAL	69.8KOHM,1%,1/4W,AA,TP,2.4X6.4mm	⚠
R623	2004-001005	REF-MF,5.1K,1%,1/4W	250V,-200 TO +200PPM/C,R-AXIAL	⚠
R625	2001-000065	REF-CF,10K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R626	2001-000060	REF-CF,6.8K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R627	2001-000065	REF-CF,10K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R628	2001-000062	REF-CF,470,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R629	2001-000611	REF-CF,3.9K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R630	2001-000119	REF-CF,680,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R631	2003-000650	REF-MO,330,5%,2W(S	500V,-200 TO +200PPM/C,R-AXIAL	
R632	2001-000023	REF-CF,47,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	⚠
R633	2001-000065	REF-CF,10K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	⚠
R634	2001-000065	REF-CF,10K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R635	2003-000650	REF-MO,330,5%,2W(S	500V,-200 TO +200PPM/C,R-AXIAL	
R636	2001-000023	REF-CF,47,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R637	2001-000065	REF-CF,10K,5%;1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R638	2001-000065	REF-CF,10K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R639	2003-000459	R-METAL OXIDE(S)	100ohm,5%,3W,AA,TP,6x16mm	⚠
R640	2003-000459	R-METAL OXIDE(S)	100ohm,5%,3W,AA,TP,6x16mm	
R641	2003-000518	REF-MO,160,5%,2W(S	-350 TO +350PPM/C,R-AXIAL	⚠
R642	2001-000354	REF-CF,150K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
R643	2001-000076	REF-CF,47K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
R644	2001-000050	REF-CF,2.7K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R645	2001-000050	REF-CF,2.7K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R646	2001-001088	REF-CF,1K,5%,1/2W(S	300V,-200 TO +200PPM/C,R-AXIAL	
R647	2001-000047	REF-CF,2.2K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R648	2003-000744	REF-MO,56,5%,2W(S	500V,-200 TO +200PPM/C,R-AXIAL	
R650	2001-000111	R-CARBON	150ohm,5%,1/4W,AA,TP,2.4x6.4mm	
R651	2001-000036	REF-CF,330,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R652	2001-000706	REF-CF,39,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R654	2001-000790	REF-CF,47,5%,1/2W	350V,-350 TO +350PPM/C,R-AXIAL	
R655	2001-000072	REF-CF,22K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R656	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R659	2001-000069	REF-CF,12K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R661	2001-000017	REF-CF,4.7,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R662	2001-000525	REF-CF,22,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R663	2001-000084	REF-CF,100K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
R701	2001-000040	REF-CF,470,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	

Loc. No.	Code No.	Description	Specification	Remarks
R702	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R703	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R704	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R706	2001-000041	REF-CF,820,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R707	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R708	2001-000072	REF-CF,22K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R709	2001-000889	REF-CF,6.8K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB70	2002-001001	R-COMPOSITION	22ohm,10%,1/2W,AA,TP,3.5x9.5mm	
RG70	2002-001001	R-COMPOSITION	22ohm,10%,1/2W,AA,TP,3.5x9.5mm	
RL601	3501-000298	RELAY,MINIATURE,12VDC	2FORMA,8A,200MW,10MS,10MS	⚠
RR70	2002-001001	R-COMPOSITION	22ohm,10%,1/2W,AA,TP,3.5x9.5mm	
SG100	4715-000106	SPARK-GAP	DSP-301N	
SG101	4715-000106	SPARK-GAP	DSP-301N	
SG102	4715-000106	SPARK-GAP	DSP-301N	
SG103	4715-000106	SPARK-GAP	DSP-301N	
SK110	3704-001032	SOCKET-CRT	8P,29PI,35.5PI,AU30U	
SW201	3404-000243	SWITCH-TACT,2P,665MM	15VDC,20MA,SPST,160G,0.25	
SW202	3404-000243	SWITCH-TACT,2P,665MM	15VDC,20MA,SPST,160G,0.25	
SW203	3404-000243	SWITCH-TACT,2P,665MM	15VDC,20MA,SPST,160G,0.25	
SW204	3404-000243	SWITCH-TACT,2P,665MM	15VDC,20MA,SPST,160G,0.25	
SW205	3404-000243	SWITCH-TACT,2P,665MM	15VDC,20MA,SPST,160G,0.25	
SW206	3404-000243	SWITCH-TACT,2P,665MM	15VDC,20MA,SPST,160G,0.25	
SW207	3404-000243	SWITCH-TACT,2P,665MM	15VDC,20MA,SPST,160G,0.25	
T601	BH26-20335G	TRANS	400UH/1.0UH,18P,EER4215	⚠
T602	BH26-30336M	TRANS	400UH,8P,EI2519,SB-5S,400UH/40	⚠
T603	BH26-30336N	TRANS	17.0MH,6P,UU1116,GP-9,17.0MH	⚠
T604	BH26-20335H	TRANS-POWER	1.5MH/600UH,20P,ETD4950,PM-2,1	⚠
T701	BH26-20335J	TRANS	600UH/4.9UH,8P,EE2229,SB-5S,16	⚠
T702	BH27-20342L	COIL	400UH,10%,EER3541,BULK	⚠
VAR600	1405-000180	640V,480V,270PF	VARI,679~829V,AXIAL,12MM	⚠
ZD201	0403-000007	DIODE-ZENER	UZ6.2BM,6.2V,6.0-6.4V,500mW,DO	

10-3 Video PCB

10-3-1 Top View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BLU
SAMSUNG
ELECTRONICS CO., LTD
DISPLAY DIVISION
G2IP TEAM
check1
check2
top silk
DSUB1
CN102
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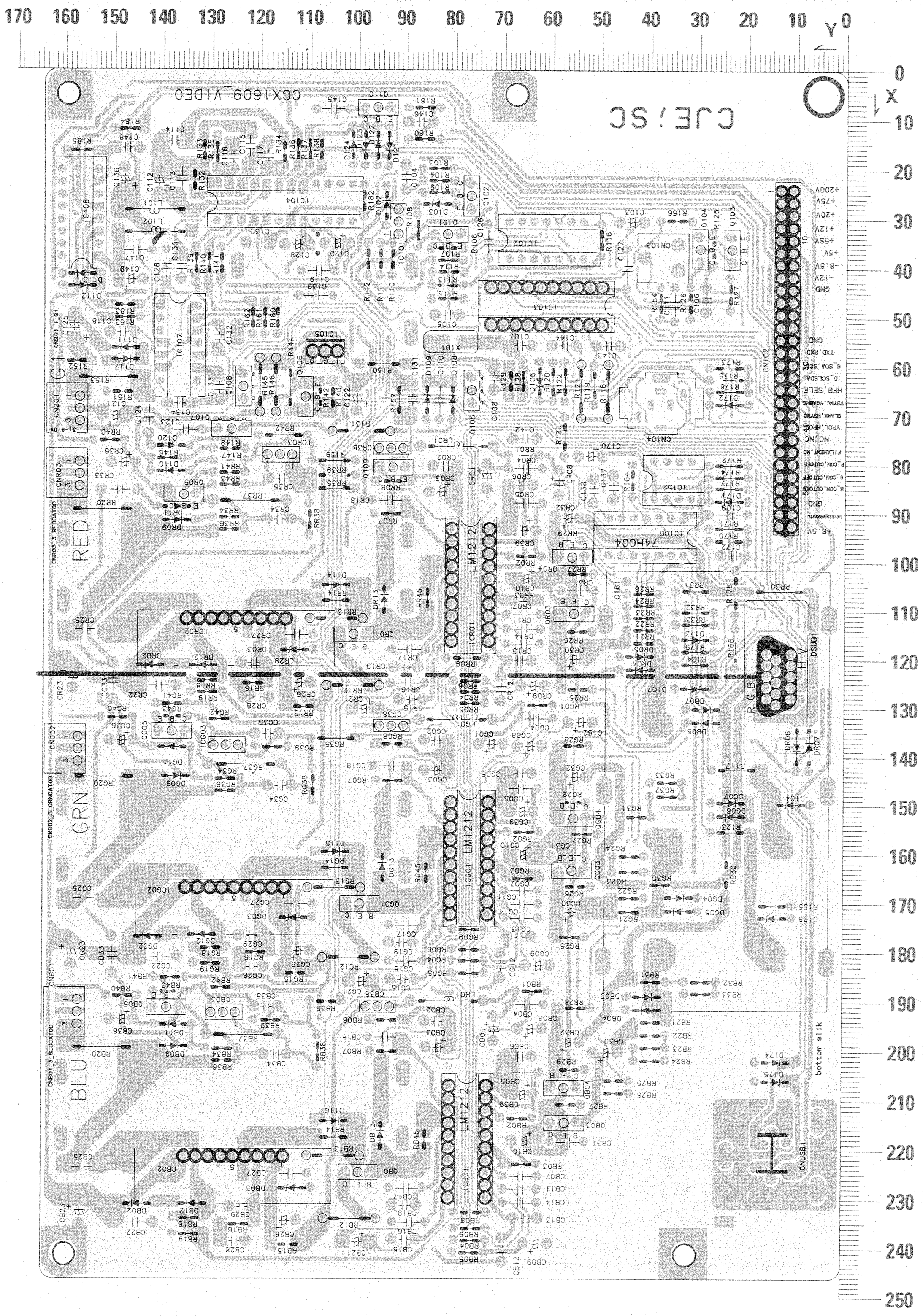
CNR03
CNG02
CNB01

10-3-2 Bottom View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RED
GRN
BLU
DSUB1
R G B
H V
CNUSB1
bottom silk
+200V
+75V
+20V
+12V
+55V
+5V
-8.5V
-12V
GND
+6.5V

10-3-3 Video PCB Parts

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
C103	30.8	46.6	2401-000597	CAP-AL.ELEC,105M,1H,4X7	(T)50V 1M	
C104	24.3	90.5	2202-000841	C-CERAMIC,MLC-RADIAL	33nF,10%,100V,X7R,5x3.1,5,TP	
C105	49.9	79.4	2301-000013	C-FILM,PEF	4.7nF,5%,100V,10.5x12.5x6.5,5m	
C106	44.1	28.8	2201-000009	CAP-CERAMIC,220J,1H,NPO	22PF,50V,5%,NPOPPM,NPO,DISC-RAD	
C107	56.1	69.6	2201-000502	CAP-CERAMIC,390J,1H,NPO	39PF,50V,5%,NPO,DISC-RADIAL,5	
C108	60.1	72.3	2201-000502	CAP-CERAMIC,390J,1H,NPO	39PF,50V,5%,NPO,DISC-RADIAL,5	
C109	90.4	27.9	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C110	63.3	83.4	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C111	51.1	35.3	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C112	25.2	141.3	2401-000042	CAP-AL.ELEC,107M,1C	(T)16V 100M	
C113	25.8	136.6	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C114	14.6	135.8	2301-000021	C-FILM,PEF	68nF,5%,100V,10x12.5mm,5mm,TP	
C115	11.9	122.8	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)250V 104J	
C116	20.3	126.1	2201-000376	CAP-CERAMIC,221J,1H,SL	220PF,50V,5%,P350TON1000PPM,SL	
C117	15.1	119	2201-000416	C-CERAMIC,DISC	270pF,5%,50V,SL,8.0X4.0,5,TP	
C118	53.5	146.2	2202-000470	CAP-CERAMIC,331J,2A	330PF,100V,5%,NPO,RE-RADIAL,DIP	
C119	41	105.1	2202-002009		C-CERAMIC,MLC-AXIAL	
C120	35.4	102.2	2401-000486	CAP-AL.ELEC,106M,1H,6X7	100nF,+80-20%,50V,Y5V,2.3X3.0	
C121	70.6	152.7	2401-001576	CAP-AL.ELEC,476M,1H	(T)50V 10M	
C122	69.5	100.5	2401-001576	CAP-AL.ELEC,476M,1H	(T)50V 47M	
C123	73.5	139.1	2202-002009	100nF,+80-20%,50V,Y5V	(T)50V 47M,2.3X3.0	
C124	74.2	143.2	2305-000009	C-CERAMIC,MLC-AXIAL	CAP-MPETP,104J,2E,7.5P	
C125	54.8	158.7	2401-000925	22uF,20%,250V,GP	(T)250V 104J,10x20mm,5mm,T	
C126	38.4	73.6	2202-002008	C-AL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C127	44.4	45.1	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
C128	43.6	139.8	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C129	35.6	110.4	2401-000486	C-CERAMIC,MLC-AXIAL	CAP-AL.ELEC,106M,1H,6X7	
C130	35.2	118.3	2305-001011	C-FILM,MPEF	22NF,5%,100V,TP,3.5X12.5X7.5MM	
C131	64.6	89	2201-000215	C-CERAMIC,DISC	120pF,5%,50V,NPO,10.0X4.0,5,TP	
C132	52	128.8	2201-000502	C-CERAMIC,DISC	CAP-CERAMIC,390J,1H,NPO	
C133	62.3	128.8	2201-000502	CAP-CERAMIC,390J,1H,NPO	39PF,50V,5%,NPO,DISC-RADIAL,5	
C134	68.1	139.4	2201-000502	CAP-CERAMIC,390J,1H,NPO	39PF,50V,5%,NPO,DISC-RADIAL,5	
C135	37.7	136.6	2201-000011	47pF,5%,50V,NPO,5,TP	39PF,50V,5%,NPO,DISC-RADIAL,6.5x3.0	
C136	24.9	148.3	2401-000031	C-CERAMIC,DISC	47uF,20%,16V,GP,6.3x11mm,5mm,T	
C137	82.5	47.6	2201-000532	C-AL	4.7nF,10%,50V,Y5P,5,TP	
C138	88.2	51.6	2301-000107	C-CERAMIC,DISC	1.5nF,5%,100V,6.5x3.0x5.5mm,5m	
C139	46	105.6	2202-002008	C-FILM,PEF	10nF,+80-20%,50V,Y5V,2.3X3.0	
C142	75.1	63.4	2301-000107	C-CERAMIC,MLC-AXIAL	1.5nF,5%,100V,6.5x3.0x5.5mm,5m	
C143	56.1	51.3	2201-000010	C-FILM,PEF	CAP-CERAMIC,330J,1H,NPO	
C144	56.1	55.4	2201-000010	CAP-CERAMIC,330J,1H,NPO	33PF,50V,5%,NPOPPM,NPO,DISC-RAD	
C145	8	102.2	2202-002009	100nF,+80-20%,50V,Y5V	33PF,50V,5%,NPOPPM,NPO,DISC,2.3X3.0	
C146	10.5	85	2301-000102	C-CERAMIC,MLC-AXIAL	1.2nF,5%,100V,5.4x10mm,5mm,TP	
C147	36.9	149.7	2202-002008	C-FILM,PEF	10nF,+80-20%,50V,Y5V,2.3X3.0	
C148	16	150.3	2305-000138	C-CERAMIC,MLC-AXIAL	100nF,10%,63V,7.5x12.5mm,5mm,T	
C149	42.8	149.5	2401-000042	C-FILM,MPEF	CAP-AL.ELEC,107M,1C	
C170	78.6	49.8	2401-001509	CAP-AL.ELEC,476M	(T)16V 100M,1C,6.3X7MM	
C172	98.8	20.4	2201-000138	CAP-CERAMIC,101K,1H,Y5P	(T)16V 47M	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
C181	104.2	37.7	2202-002008	10nF,+80-20%,50V,Y5V	100PF,50V,10%,2.3X3.0,-Y5P,DISC-RADI	
C182	133	56.5	2401-000050	C-CERAMIC,MLC-AXIAL	10uF,20%,16V,GP,5x11mm,2mm,TP	
CB01	193.4	71.5	2401-000486	C-AL	CAP-AL.ELEC,106M,1H,6X7	
CB02	194.3	80.7	2202-000394	CAP-CERAMIC,102J,2A	(T)50V 10M	
CB03	199.7	80.3	2401-000486	CAP-AL.ELEC,106M,1H,6X7	1NF,100V,5%,NPO,RE-RADIAL,DIPPE	
CB04	190.8	68.1	2202-002009	100nF,+80-20%,50V,Y5V	(T)50V 10M,2.3X3.0	
CB05	204.8	69	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
CB06	201.5	68.5	2202-000428	C-CERAMIC,MLC-AXIAL	CAP-CERAMIC,221J,2A,MONO	
CB07	226	69.3	2202-002009	100nF,+80-20%,50V,Y5V	220PF,100V,5%,NPO,RE-RADIAL	
CB08	195.8	66.4	2401-000486	C-CERAMIC,MLC-AXIAL	CAP-AL.ELEC,106M,1H,6X7	
CB09	239.8	65	2401-000486	CAP-AL.ELEC,106M,1H,6X7	(T)50V 10M	
CB10	218.8	62.5	2401-000486	CAP-AL.ELEC,106M,1H,6X7	(T)50V 10M	
CB11	228.8	69.3	2202-002009	100nF,+80-20%,50V,Y5V	(T)50V 10M,2.3X3.0	
CB12	238.6	69.4	2201-000496	C-CERAMIC,MLC-AXIAL	390pF,10%,50V,Y5P,4x3.5,5,TP	
CB13	234.6	67	2202-000428	C-CERAMIC,DISC	CAP-CERAMIC,221J,2A,MONO	
CB14	231.5	69.3	2202-002008	10nF,+80-20%,50V,Y5V	220PF,100V,5%,NPO,RE-RADIAL,2.3X3.0	
CB15	239	87	2202-000428	C-CERAMIC,MLC-AXIAL	CAP-CERAMIC,221J,2A,MONO	
CB16	235.5	85.1	2202-002009	100nF,+80-20%,50V,Y5V	220PF,100V,5%,NPO,RE-RADIAL,2.3X3.0	
CB17	228.5	85.7	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
CB18	197.6	90.3	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
CB19	232	87	2202-000394	C-CERAMIC,MLC-AXIAL	CAP-CERAMIC,102J,2A,MONO	
CB21	239.5	97	2401-000023	1uF,20%,50V,GP,5x11mm	1NF,100V,5%,NPO,RE-RADIAL,5mm,TP	
CB22	235.6	141.5	2305-000009	CAP-MPETP,104J,2E,7.5P	C-AL	
CB23	231	156.8	2401-000049	CAP-AL.ELEC,476M,2A,105C	(T)250V 104J	
CB25	224.3	160	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)100V 47M	
CB26	235.1	117	2401-000486	CAP-AL.ELEC,106M,1H,6X7	(T)250V 104J	
CB27	225.6	116.7	2202-002008	10nF,+80-20%,50V,Y5V	(T)50V 10M,2.3X3.0	
CB28	239.3	127.3	2201-000010	C-CERAMIC,MLC-AXIAL	CAP-CERAMIC,330J,1H,NPO	
CB29	232.4	120.7	2201-000010	CAP-CERAMIC,330J,1H,NPO	33PF,50V,5%,NPOPPM,NPO,DISC-RAD	
CB30	200.6	50.9	2401-000486	CAP-AL.ELEC,106M,1H,6X7	33PF,50V,5%,NPOPPM,NPO,DISC-RAD	
CB31	219	59.6	2202-002009	100nF,+80-20%,50V,Y5V	(T)50V 10M,2.3X3.0	
CB32	198.6	58.7	2401-000486	C-CERAMIC,MLC-AXIAL	CAP-AL.ELEC,106M,1H,6X7	
CB33	177	150.3	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)50V 10M	
CB34	201.1	118.9	2201-000019	CAP-CERAMIC,103Z,2H,DISC	(T)250V 104J	
CB35	191.4	120.9	2201-000443	CAP-CERAMIC,332K,1H,Y5P	10NF,500V,80-20%,Y5V,RADIAL	
CB36	194	145.6	2401-000055	CAP-AL.ELEC,105M,2C,105C	3.3NF,50V,10%,10%,Y5P,DISC-RADI	
CB38	191.3	98	2901-000192	FILTER-LPF,EMI,LC	(T)160V 1M,470PF,50VDC	
CB39	209.3	63	2403-000118	CAP-TANTAL,106K,1E	20%,AMMO PACK,-25 TO 85C	
CG01	137.6	74.8	2401-000486	CAP-AL.ELEC,106M,1H,6X7	(T)10UF,25V,10%,DIP-RADIAL,5MM	
CG02	136.9	81	2202-000394	CAP-CERAMIC,102J,2A	(T)50V 10M	
CG03	143	81	2401-000486	CAP-AL.ELEC,106M,1H,6X7	1NF,100V,5%,NPO,RE-RADIAL,DIPPE	
CG04	132.4	66.7	2202-002009	100nF,+80-20%,50V,Y5V	(T)50V 10M,2.3X3.0	
CG05	146.7	69.8	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
CG06	143.5	68.9	2202-000428	C-CERAMIC,MLC-AXIAL	CAP-CERAMIC,221J,2A,MONO	
CG07	167.5	69.4	2202-002009	100nF,+80-20%,50V,Y5V	220PF,100V,5%,NPO,RE-RADIAL,2.3X3.0	
CG08	138	66.9	2401-000486	C-CERAMIC,MLC-AXIAL	CAP-AL.ELEC,106M,1H,6X7	
CG09	182.8	64.9	2401-000486	CAP-AL.ELEC,106M,1H,6X7	(T)50V 10M	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
CG10	160.2	63.2	2401-000486	CAP-AL.ELEC,106M,1H,6X7	(T)50V 10M	
CG11	170.3	69.4	2202-002009	100nF,+80-20%,50V,Y5V	(T)50V 10M,2.3X3.0	
CG12	180.4	70.2	2201-000496	C-CERAMIC,MLC-AXIAL	390pF,10%,50V,Y5P,4x3.5,5,TP	
CG13	177	68.8	2202-000428	C-CERAMIC,DISC	CAP-CERAMIC,221J,2A,MONO	
CG14	173.1	69.4	2202-002008	10nF,+80-20%,50V,Y5V	220PF,100V,5%,NPO,RE-RADIAL,2.3X3.0	
CG15	185.8	87.8	2202-000428	C-CERAMIC,MLC-AXIAL	CAP-CERAMIC,221J,2A,MONO	
CG16	182	86.1	2202-002009	100nF,+80-20%,50V,Y5V	220PF,100V,5%,NPO,RE-RADIAL,2.3X3.0	
CG17	174.7	86.1	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
CG18	142.1	89.5	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
CG19	178.2	88.1	2202-000394	C-CERAMIC,MLC-AXIAL	CAP-CERAMIC,102J,2A,MONO	
CG21	186.2	96.4	2401-000023	1uF,20%,50V,GP,5x11mm,5mm	1NF,100V,5%,NPO,RE-RADIAL,DIPPE	
CG22	181.3	136.7	2305-000009	C-AL	CAP-MPETP,104J,2E,7.5P	
CG23	177.8	158.8	2401-000049	CAP-AL.ELEC,476M,2A,105C	(T)250V 104J	
CG25	169.3	160	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)100V 47M	
CG26	179.9	114.5	2401-000486	CAP-AL.ELEC,106M,1H,6X7	(T)250V 104J	
CG27	170.3	116.1	2202-002008	10nF,+80-20%,50V,Y5V	(T)50V 10M,2.3X3.0	
CG28	183.3	124	2201-000010	C-CERAMIC,MLC-AXIAL	CAP-CERAMIC,330J,1H,NPO	
CG29	176.9	119.1	2201-000010	CAP-CERAMIC,330J,1H,NPO	33PF,50V,5%,NPOPPM,NPO,DISC-RAD	
CG30	171.9	58.4	2401-000486	CAP-AL.ELEC,106M,1H,6X7	33PF,50V,5%,NPOPPM,NPO,DISC-RAD	
CG31	160.3	52.8	2202-002009	100nF,+80-20%,50V,Y5V	(T)50V 10M,2.3X3.0	
CG32	144.2	57.6	2401-000486	C-CERAMIC,MLC-AXIAL	CAP-AL.ELEC,106M,1H,6X7	
CG33	121.1	150.4	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)50V 10M	
CG34	146.2	118.4	2201-000019	CAP-CERAMIC,103Z,2H,DISC	(T)250V 104J	
CG35	135.6	121	2201-000443	CAP-CERAMIC,332K,1H,Y5P	10NF,500V,80-20%,Y5V,RADIAL	
CG36	137	145.9	2401-000055	CAP-AL.ELEC,105M,2C,105C	3.3NF,50V,10%,10%,Y5P,DISC-RADI	
CG38	133.9	95.5	2901-000192	FILTER-LPF,EMI,LC	(T)160V 1M,470PF,50VDC	
CG39	151.3	63.4	2403-000118	CAP-TANTAL,106K,1E	20%,AMMO PACK,-25 TO 85C	
CN102	24.3	11	3710-001087	56P,2R,2.54mm,ANGLE,AUF	(T)10UF,25V,10%,DIP-RADIAL,5MM	
CN103	40.6	34.6	3722-000113	CONNECTOR-SOCKET	CON-MINIATURE JACK	
CN104	68	38	3722-001063	7P/5C,3.6mm,AG,BLK,-	3P,8.6X8X12.7MM	
CN2G1	66.7	157.5	3711-000057	JACK-PHONE	BOX,3P,1R,2.5mm,ANGLE,SN	
CNB01	190	157.5	3711-000057	CONNECTOR-HEADER	BOX,3P,1R,2.5mm,ANGLE,SN	
CNG02	136.2	157.6	3711-000057	CONNECTOR-HEADER	BOX,3P,1R,2.5mm,ANGLE,SN	
CNR03	79.9	157.5	3711-000057	CONNECTOR-HEADER	BOX,3P,1R,2.5mm,ANGLE,SN	
CNUSB1	221.6	14	3722-001128	CONNECTOR-HEADER	4P/2C,12PI,NI,BLK,NO	
CR01	80.2	73.7	2401-000486	JACK-DIN	CAP-AL.ELEC,106M,1H,6X7	
CR02	80.7	79.6	2202-000394	CAP-CERAMIC,102J,2A	(T)50V 10M	
CR03	86	80.3	2401-000486	CAP-AL.ELEC,106M,1H,6X7	1NF,100V,5%,NPO,RE-RADIAL,DIPPE	
CR04	81.2	69.1	2202-002009	100nF,+80-20%,50V,Y5V	(T)50V 10M,2.3X3.0	
CR05	88.2	69.1	2202-002008	C-CERAMIC,MLC-AXIAL	10nF,+80-20%,50V,Y5V,2.3X3.0	
CR06	84.6	69.1	2202-000428	C-CERAMIC,MLC-AXIAL	CAP-CERAMIC,221J,2A,MONO	
CR07	111.1	69.3	2202-002009	100nF,+80-20%,50V,Y5V	220PF,100V,5%,NPO,RE-RADIAL,2.3X3.0	
CR08	81.6	58.7	2401-000486	CAP-AL.ELEC,106M,1H,6X7	C-CERAMIC,MLC-AXIAL	
CR09	125.6	66.3	2401-000486	CAP-AL.ELEC,106M,1H,6X7	(T)50V 10M	
CR10	103.7	62.9	2401-000486	CAP-AL.ELEC,106M,1H,6X7	(T)50V 10M	
CR11	114	69.3	2202-002009	100nF,+80-20%,50V,Y5V	(T)50V 10M,2.3X3.0	
CR12	123.8	70.4	2201-000496	C-CERAMIC,MLC-AXIAL	390pF,10%,50V,Y5P,4x3.5,5,TP	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
CR13	120.5	69.1	2202-000428	C-CERAMIC,DISC	CAP-CERAMIC,221J,2A,MONO	
CR14	117.1	69.3	2202-002008	10nF,+80-20%,50V,Y5V	220PF,100V,5%,NPO,RE-RADIAL,2.3X3.0	
CR15	128.5	86.3	2202-000428	C-CERAMIC,MLC-AXIAL	CAP-CERAMIC,221J,2A,MONO	
CR16	125.2	86	2202-002009	100nF,+80-20%,50V,Y5V	220PF,100V,5%,NPO,RE-RADIAL,2.3X3.0	
CR17	118.2	85.8	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
CR18	87.8	90	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
CR19	121.9	87.4	2202-000394	C-CERAMIC,MLC-AXIAL	CAP-CERAMIC,102J,2A,MONO	
CR21	130.4	96.1	2401-000023	1uF,20%,50V,GP,5x11mm,5mm	1NF,100V,5%,NPO,RE-RADIAL,DIPPE	
CR22	125.7	137.2	2305-000009	C-AL	CAP-MPETP,104J,2E,7.5P	
CR23	121.3	158.6	2401-000049	CAP-AL.ELEC,476M,2A,105C	(T)250V 104J	
CR25	114.3	160	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)100V 47M	
CR26	125.1	114.6	2401-000486	CAP-AL.ELEC,106M,1H,6X7	(T)250V 104J	
CR27	115.3	116.2	2202-002008	10nF,+80-20%,50V,Y5V	(T)50V 10M,2.3X3.0	
CR28	128.1	123.2	2201-000010	C-CERAMIC,MLC-AXIAL	CAP-CERAMIC,330J,1H,NPO	
CR29	121.1	119	2201-000010	CAP-CERAMIC,330J,1H,NPO	33PF,50V,5%,NPOPPM,NPO,DISC-RAD	
CR30	120.1	57.9	2401-000486	CAP-AL.ELEC,106M,1H,6X7	33PF,50V,5%,NPOPPM,NPO,DISC-RAD	
CR31	106.1	51.2	2202-002009	100nF,+80-20%,50V,Y5V	(T)50V 10M,2.3X3.0	
CR32	91.3	59.3	2401-000486	C-CERAMIC,MLC-AXIAL	CAP-AL.ELEC,106M,1H,6X7	
CR33	85.7	152.9	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)50V 10M	
CR34	91.7	118.9	2201-000019	CAP-CERAMIC,103Z,2H,DISC	(T)250V 104J	
CR35	83.4	118.4	2201-000443	CAP-CERAMIC,332K,1H,Y5P	10NF,500V,80-20%,Y5V,RADIAL	
CR36	80.1	145.8	2401-000055	CAP-AL.ELEC,105M,2C,105C	3.3NF,50V,10%,10%,Y5P,DISC-RADI	
CR38	77.1	95.9	2901-000192	FILTER-LPF,EMI,LC	(T)160V 1M,470PF,50VDC	
CR39	93.8	63.4	2403-000118	CAP-TANTAL,106K,1E	20%,AMMO PACK,-25 TO 85C	
D102	31.6	94.6	0401-000005	DIODE-SIG,1N4148,DO-35	(T)10UF,25V,10%,DIP-RADIAL,5MM	
D103	27.3	80.2	0403-000416	DIODE-ZEN,ZPD2,7,DO-35	75V,150MA,1V,10MA	
D104	149.8	6.7	0403-000508	DIODE-ZEN,BZX79C5V6,DO35	0.5W,5MA	
D105	59.4	63	0403-000508	DIODE-ZEN,BZX79C5V6,DO35	0.5W,5MA	
D106	173	10.5	0403-000508	DIODE-ZEN,BZX79C5V6,DO35	0.5W,5MA	
D107	126.1	34.8	0403-000508	DIODE-ZEN,BZX79C5V6,DO35	0.5W,5MA	
D108	71.3	80.8	0401-000005	DIODE-SIG,1N4148,DO-35	0.5W,5MA	
D109	71.3	86.1	0403-000337	DIODE-ZEN,UZ-24BH,DO-35	75V,150MA,1V,10MA	
D110	81.9	134.7	0401-000005	DIODE-SIG,1N4148,DO-35	0.5W,5MA	
D111	56.7	144.1	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D112	44.1	161.1	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D113	41.7	153.1	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D114	105.1	108.7	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D115	159.6	108.6	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D116	214.7	108.5	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D117	59.1	152.1	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D120	76.7	142.7	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D121	11.4	94.1	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D122	19.4	96.4	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D123	11.4	99	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D124	19.4	101.5	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D171	87.8	19.9	0403-000508	DIODE-ZEN,BZX79C5V6,DO35	75V,150MA,1V,10MA	
D172	68	19.9	0403-000508	DIODE-ZEN,BZX79C5V6,DO35	0.5W,5MA	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
D173	116.1	34.7	0403-000508	DIODE-ZEN,BZX79C5V6,DO35	0.5W,5MA	
D174	202.5	17.6	0403-000508	DIODE-ZEN,BZX79C5V6,DO35	0.5W,5MA	
D175	206.4	17.6	0403-000508	DIODE-ZEN,BZX79C5V6,DO35	0.5W,5MA	
DB02	231.7	141	0401-000005	DIODE-SIG,1N4148,DO-35	0.5W,5MA	
DB03	228.5	109	0403-000316	DIODE-ZEN,RD10EB3,DO-35	75V,150MA,1V,10MA	
DB04	191.9	36.2	0401-000005	DIODE-SIG,1N4148,DO-35	0.5W,20MA	
DB05	189.1	44.2	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DB06	133	24.4	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DB07	130.3	32.4	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DB09	199.5	141.6	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DB11	195.1	133.6	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DB12	231.6	129.5	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DB13	221.7	94.7	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DG02	177	139	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DG03	173.2	109.1	0403-000316	DIODE-ZEN,RD10EB3,DO-35	75V,150MA,1V,10MA	
DG04	168.8	37.8	0401-000005	DIODE-SIG,1N4148,DO-35	0.5W,20MA	
DG05	171.6	29.8	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DG06	152.2	19.1	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DG07	149.5	27.1	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DG09	144.2	141.4	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DG11	138.3	134.2	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DG12	176.6	127.8	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DG13	166.8	94.7	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DR02	121.5	138.8	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DR03	118.4	109.2	0403-000316	DIODE-ZEN,RD10EB3,DO-35	75V,150MA,1V,10MA	
DR04	122.2	37.9	0401-000005	DIODE-SIG,1N4148,DO-35	0.5W,20MA	
DR05	119.6	46.1	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DR06	132.8	9.6	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DR07	142.8	7	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DR09	91.9	141.5	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DR11	89.2	141.5	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DR12	121.5	127.9	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DR13	112.1	94.6	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
DSUB1	123.5	14	3701-001018	15P,3R,FEMALE	75V,150MA,1V,10MA,STRAIGHT,AU30	
HS201	55	107.2	BH62-30398A	CONNECTOR-DSUB	A6063,T1.5,CGP1607	
IC102	30.8	69.2	1202-000119	IC-LIN,LM319,COMPARATOR	TO-92,3,36V(T)-SIMPLE	⚠
IC103	51.8	50.3	BH13-10301F	IC-CUS,SL506,SYNC PROCES	DIP,14,DUAL	⚠
IC104	23.2	129.4	1204-001015	LSC4350,DIP,24P,300MIL	SL506,DIP-20,PLASTIC	⚠
IC105	57.4	104.7	1203-000356	IC-OSD PROCESSOR	IC-LIN,337,REGULATOR	
IC106	98.9	33.1	0801-000900	IC-MOS,74HC04,INVERTER	TO-220,3	
IC107	48.2	133.3	0801-000699	IC-MOS,74HC125,QUAD	DIP,14,300MIL,HEX	
IC108	38.2	161.2	0801-000213	4052B,MUTIPLEXER,DIP	DIP,4,300MIL,QUAD,16P,300MI	
IC152	79.6	39.2	1103-001009	IC-CMOS LOGIC	24LC21,128X8BIT,DIP,8P,300MIL	⚠
ICB01	207.5	73	1201-000014	IC-EEPROM	1212,DIP,20P,VIDEO,LINEAE,PLA	⚠
ICB02	222	115	1201-000012	IC-AMPLIFIER	18,SIP,9P,SINGLE,41.5dB,ALUM	⚠
ICB03	192.5	124.9	1203-000002	IC-VIDEO AMP	IC-LIN,431,REGULATOR	
ICG01	149.5	73	1201-000014	1212,DIP,20P,VIDEO	TO-92,3,36V(T)-SIMPLE,LINEAE,PLA	⚠

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
ICG02	167	115	1201-000012	IC-AMPLIFIER	18,SIP,9P,SINGLE,41.5dB,ALUM	⚠
ICG03	137.9	124.6	1203-000002	IC-VIDEO AMP	IC-LIN,431,REGULATOR	
ICR01	93.6	73.1	1201-000014	1212,DIP,20P,VIDEO	TO-92,3,36V(T)-SIMPLE,LINEAE,PLA	⚠
ICR02	112	115	1201-000012	IC-AMPLIFIER	18,SIP,9P,SINGLE,41.5dB,ALUM	⚠
ICR03	78.5	113.9	1203-000002	IC-VIDEO AMP	IC-LIN,431,REGULATOR	
L101	28.5	149.7	2701-000002	100uH,10%,4.2x9.8mm	TO-92,3,36V(T)-SIMPLE	
L102	33.1	134.7	2701-000002	INDUCTOR-AXIAL	100uH,10%,4.2x9.8mm	
LB01	190.1	73.4	2701-000187	INDUCTOR-AXIAL	INDUCTOR-AXIAL,4.7UH	
LG01	132.6	72.1	2701-000187	INDUCTOR-AXIAL,4.7UH	FIX,4.7UH,10%,65,4X10.5MM	
LR01	76.7	72.2	2701-000187	INDUCTOR-AXIAL,4.7UH	FIX,4.7UH,10%,65,4X10.5MM	
Q101	33.4	79.5	0501-000586	TR-NPN,KSC945,TO-92,EBC	FIX,4.7UH,10%,65,4X10.5MM	
Q102	28.1	77.2	0501-000492	TR-NPN,MPS3646,TO-92,EBC	0.25W,60V,50V,5V,0.15A	
Q103	33.9	23.6	0501-000586	TR-NPN,KSC945,TO-92,EBC	40V,15V,5V,0.3A	
Q104	33.8	30.2	0501-000586	TR-NPN,KSC945,TO-92,EBC	0.25W,60V,50V,5V,0.15A	
Q105	62.7	76.9	0505-000016	ZVN3310A,N,100V,200mA	0.25W,60V,50V,5V,0.15A,10Ohm,6	
Q106	64.2	111.2	0501-000411	FET	TR-PNP,MPS2907A,TO-92,EBC	
Q107	73.3	128.8	0505-000016	ZVN3310A,N,100V,200mA	0.625W,60V,60V,5V,0.6A,10Ohm,6	
Q108	62.1	123.9	0505-000016	FET	ZVN3310A,N,100V,200mA,10Ohm,6	
Q109	81.1	90.5	0501-000492	FET	TR-NPN,MPS3646,TO-92,EBC	
Q110	7.7	93.9	0501-000586	TR-NPN,KSC945,TO-92,EBC	40V,15V,5V,0.3A	
QB01	225.2	96.8	0501-000007	KSP10,NPN,30V,3V,350MW	0.25W,60V,50V,5V,0.15A,25V,60	
QB03	215	54.4	0501-000007	TR-SMALL	KSP10,NPN,30V,3V,350MW,25V,60	
QB04	207.8	59.5	0501-000007	TR-SMALL	KSP10,NPN,30V,3V,350MW,25V,60	
QB05	191.5	141.6	0501-000412	TR-SMALL	TR-NPN,MPSA42,TO-92,EBC	
QG01	170.3	96.8	0501-000007	KSP10,NPN,30V,3V,350MW	0.625W,300V,300V,6V,0.5A,25V,60	
QG03	163.4	58.2	0501-000007	TR-SMALL	KSP10,NPN,30V,3V,350MW,25V,60	
QG04	152.7	57.9	0501-000007	TR-SMALL	KSP10,NPN,30V,3V,350MW,25V,60	
QG05	135	140.7	0501-000412	TR-SMALL	TR-NPN,MPSA42,TO-92,EBC	
QR01	115.1	98.5	0501-000007	KSP10,NPN,30V,3V,350MW	0.625W,300V,300V,6V,0.5A,25V,60	
QR03	110.9	58.1	0501-000007	TR-SMALL	KSP10,NPN,30V,3V,350MW,25V,60	
QR04	99.3	58.5	0501-000007	TR-SMALL	KSP10,NPN,30V,3V,350MW,25V,60	
QR05	86.7	133.5	0501-000412	TR-SMALL	TR-NPN,MPSA42,TO-92,EBC	
R103	20	80.6	2001-000077	REF-CF,47K,5%,1/6W	0.625W,300V,300V,6V,0.5A	
R104	22.5	87	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R106	36.3	85.1	2001-000072	REF-CF,22K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R107	38.7	78.7	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R108	29.4	88.1	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R109	24.9	87	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R110	41.8	93.3	2001-000069	REF-CF,12K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R111	35.3	95.7	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R112	41.8	98.3	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R113	43.9	78.6	2001-000053	REF-CF,3.3K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R114	41.1	85	2001-000324	REF-CF,120,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R115	46.6	85.1	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R116	37.8	50.3	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R117	142.7	26.9	2001-000301	REF-CF,10,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R118	70.9	48.9	2001-000042	1Kohm,5%,1/4W,AA	150V,-1300 TO +350PPM/C,R-AXIAL,2.4x6.4	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
R119	60.1	51.7	2001-000067	R-CARBON	REF-CF,10K,5%,1/6W	
R120	59.4	60.2	2001-000301	REF-CF,10,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R121	70.9	54.5	2001-000042	1Kohm,5%,1/4W,AA	150V,-1300 TO +350PPM/C,R-AX,2.4x6.4mm	
R122	59.4	57.7	2001-000067	R-CARBON	REF-CF,10K,5%,1/6W	
R123	155.5	19.1	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R124	121.2	26.8	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R125	39.5	27.3	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R126	50.6	32.1	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R127	42.2	23.8	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R128	60.1	66.4	2001-000097	REF-CF,1M,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R129	60.1	68.9	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R130	78.7	57.7	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R131	73.6	105.6	2001-000066	REF-CF,10K,5%,1/2W(S	150V,-1300 TO +350PPM/C,R-AXIAL	
R132	19.3	134	2001-000041	820ohm,5%,1/6W,AA	300V,-200 TO +200PPM/C,R-AX,1.8x3.2mm	
R133	13.1	132	2001-000106	R-CARBON	REF-CF,1.5K,5%,1/6W	
R134	13.6	115.7	2001-000097	REF-CF,1M,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R135	13.6	129.4	2001-000059	REF-CF,5.6K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R136	13	112.9	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R137	13	110.5	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R138	13	108.1	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R139	36.1	133.6	2001-000024	REF-CF,47,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R140	36.1	131	2001-000024	REF-CF,47,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R141	36.1	128.4	2001-000024	REF-CF,47,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R142	63.6	108.2	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R143	70.1	105.6	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R144	59.8	114.4	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R145	58.8	120.5	2004-000280	REF-MF,124,1%,1/4W	150V,-1300 TO +350PPM/C,R-AXIAL	
R146	69.8	117.3	2004-000970	470ohm,1%,1/4W,AA,TP	250V,-100 TO +100PPM/C,R-AX,2.4x6.4mm	
R147	79.7	123.4	2001-000301	R-METAL	REF-CF,10,5%,1/6W	
R148	79.3	142.7	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R149	77.3	129.9	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R150	59.9	90.7	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R151	65.7	152	2001-000097	REF-CF,1M,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R152	59.4	161.4	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R153	62.7	144.1	2002-000142	REF-CC,39,10%,1/2W	150V,-1300 TO +350PPM/C,R-AXIAL	
R154	44.1	38.2	2001-000067	REF-CF,10K,5%,1/6W	350V,R-AXIAL	
R155	170.5	18.5	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R156	113.8	22.4	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R157	71.3	91.8	2001-000856	560ohm,5%,1/6W,AA,TP	150V,-1300 TO +350PPM/C,R-AX,1.8x3.2mm	
R159	79.7	109.6	2001-000056	R-CARBON	REF-CF,4.7K,5%,1/6W	
R160	47.3	117	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R161	53.8	119.5	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R162	47.3	122.1	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R163	50.5	151.5	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R164	86.8	43.7	2001-000923	680ohm,5%,1/6W,AA,TP	150V,-1300 TO +350PPM/C,R-AX,1.8x3.2mm	
R166	30.6	38.2	2001-000029	R-CARBON	REF-CF,100,5%,1/6W	
R170	96	19.9	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	

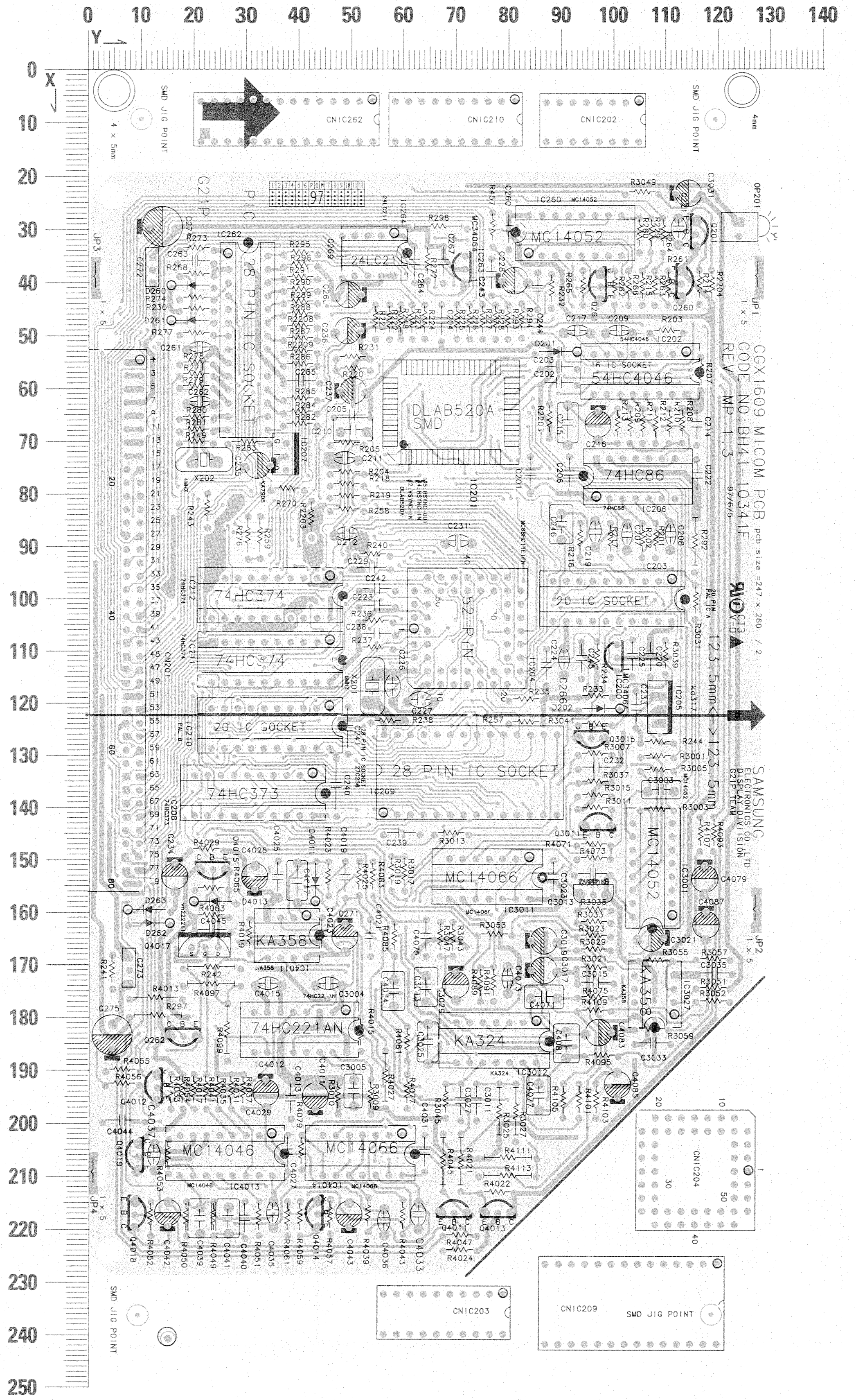
Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
R171	93.4	27.9	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R172	80.5	27.9	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R173	60.6	28	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R174	82.9	27.9	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R175	63	28	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R176	101.9	22.4	2001-000868	REF-CF,56,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R177	85.2	19.9	2001-000868	REF-CF,56,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R178	65.4	19.9	2001-000868	REF-CF,56,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R179	118.6	34.7	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R180	14.1	90.1	2001-000069	REF-CF,12K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R181	7.6	90	2001-000057	REF-CF,5.1K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R182	23.4	99.1	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R183	48	145	2001-000106	REF-CF,1.5K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R184	12.1	144.1	2001-000106	REF-CF,1.5K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R185	16.5	160.5	2001-000644	330Kohm,5%,1/6W,AA,TP	150V,-1300 TO +350PPM/C,R-AX,1.8x3.2mm	
RB01	188.1	66.9	2001-000033	R-CARBON	REF-CF,200,5%,1/6W	
RB02	214.1	63.4	2001-000937	REF-CF,68,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB03	223.5	62.3	2001-000361	REF-CF,150,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB04	239.2	79.3	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB05	241.7	73.1	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB06	236.8	72.8	2001-000040	REF-CF,470,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB07	200.5	90.3	2001-000057	REF-CF,5.1K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB08	194.1	90.3	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB09	233.5	79.3	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB12	234.7	106.6	2001-000028	REF-CF,100,5%,1/2W(S	150V,-1300 TO +350PPM/C,R-AXIAL	
RB13	221.8	99.1	2001-001195	REF-CF,82,5%,1/2W(S	350V,-1300 TO +350PPM/C,R-AXIAL	
RB14	218.1	100.5	2001-000024	REF-CF,47,5%,1/6W	300V,-200 TO +200PPM/C,R-AXIAL	
RB15	240	110.5	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB16	235.9	120.7	2001-000937	REF-CF,68,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB18	234.6	130.9	2001-000086	REF-CF,100K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB19	237.9	137.4	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB20	199.7	144.8	2002-001001	22ohm,10%,1/2W,AA,TP	150V,-1300 TO +350PPM/C,R-AX,3.5x9.5mm	
RB21	194.4	36.2	2001-000301	R-COMPOSITION	REF-CF,10,5%,1/6W	
RB22	197.1	42.7	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB23	199.6	36.2	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB24	202.3	42.7	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB25	206.4	43.6	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB26	208.9	50.1	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB27	211.3	59.8	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB28	191.5	51.5	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB29	204.2	59.1	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB30	168.1	24	2001-000301	REF-CF,10,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB31	186.1	42.7	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB32	186.1	32.4	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB33	188.5	25.9	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB34	200	130.8	2001-000097	REF-CF,1M,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB35	190.2	102.9	2001-000075	39Kohm,5%,1/6W,AA,TP	150V,-1300 TO +350PPM/C,R-AX,1.8x3.2mm	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
RB36	202.3	130.8	2001-000097	R-CARBON	REF-CF,1M,5%,1/6W	
RB37	197.1	130.7	2002-000121	REF-CC,1M ,10%,1/2W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB38	203.8	107.9	2001-000086	REF-CF,100K,5%,1/6W	350V,-1000 TO -500PPM/C,R-AXIAL	
RB39	194.1	114.5	2001-000108	REF-CF,18K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB40	189.1	151.4	2001-000547	270Kohm,5%,1/6W,AA,TP	150V,-1300 TO +350PPM/C,R-AX,1.8x3.2mm	
RB41	185.4	141.6	2001-000029	R-CARBON	REF-CF,100,5%,1/6W	
RB42	187.4	124.7	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB43	188.3	141.6	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RB45	221.8	85.6	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG01	129.6	66.2	2001-000033	REF-CF,200,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG02	155.6	62.4	2001-000937	REF-CF,68,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG03	165	62.5	2001-000361	REF-CF,150,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG04	181.9	80	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG05	184.5	73.4	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG06	179.6	73.5	2001-000040	REF-CF,470,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG07	145.1	89.5	2001-000057	REF-CF,5.1K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG08	137.6	89.5	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG09	175.5	80	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG12	181.2	107.1	2001-000028	REF-CF,100,5%,1/2W(S	150V,-1300 TO +350PPM/C,R-AXIAL	
RG13	167	99.2	2001-001195	REF-CF,82,5%,1/2W(S	350V,-1300 TO +350PPM/C,R-AXIAL	
RG14	162.9	100.6	2001-000024	REF-CF,47,5%,1/6W	300V,-200 TO +200PPM/C,R-AXIAL	
RG15	184.5	109.4	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG16	180.2	117.6	2001-000937	REF-CF,68,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG18	179.3	126.9	2001-000086	REF-CF,100K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG19	182.5	133.4	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG20	144.4	144.7	2002-001001	22ohm,10%,1/2W,AA,TP	150V,-1300 TO +350PPM/C,R-AX,3.5x9.5mm	
RG21	171.9	40.7	2001-000301	R-COMPOSITION	REF-CF,10,5%,1/6W	
RG22	169	47.3	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG23	163.7	40.7	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG24	160.5	47.3	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG25	177	52.8	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG26	166.7	58.2	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG27	155.9	56.9	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG28	137.9	52.2	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG29	149.5	59.2	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG30	166.2	40.9	2001-000301	REF-CF,10,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG31	152.4	45.8	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG32	148.2	39.6	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG33	145.4	33.1	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG34	144.7	130.5	2001-000097	REF-CF,1M,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG35	136.5	99.5	2001-000075	39Kohm,5%,1/6W,AA,TP	150V,-1300 TO +350PPM/C,R-AX,1.8x3.2mm	
RG36	147.2	130.5	2001-000097	R-CARBON	REF-CF,1M,5%,1/6W	
RG37	141.8	130.5	2002-000121	REF-CC,1M ,10%,1/2W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG38	149.2	109.2	2001-000086	REF-CF,100K,5%,1/6W	350V,-1000 TO -500PPM/C,R-AXIAL	
RG39	138.2	114.4	2001-000108	REF-CF,18K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG40	132.3	152.7	2001-000547	270Kohm,5%,1/6W,AA,TP	150V,-1300 TO +350PPM/C,R-AX,1.8x3.2mm	
RG41	129.4	141.5	2001-000029	R-CARBON	REF-CF,100,5%,1/6W	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
RG42	132.5	125.3	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG43	132	141.4	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RG45	167.2	85.6	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR01	78.5	69.2	2001-000033	REF-CF,200,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR02	99.1	62.3	2001-000937	REF-CF,68,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR03	108.4	62.8	2001-000361	REF-CF,150,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR04	126.9	80.1	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR05	129.2	73.7	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR06	124.7	73.6	2001-000040	REF-CF,470,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR07	90.5	90.1	2001-000057	REF-CF,5.1K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR08	83.9	90	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR09	120	81.6	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR12	125.6	106.5	2001-000028	REF-CF,100,5%,1/2W(S	150V,-1300 TO +350PPM/C,R-AXIAL	
RR13	111.9	99.1	2001-001195	REF-CF,82,5%,1/2W(S	350V,-1300 TO +350PPM/C,R-AXIAL	
RR14	108.2	100.7	2001-000024	REF-CF,47,5%,1/6W	300V,-200 TO +200PPM/C,R-AXIAL	
RR15	130	108	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR16	125.2	118.4	2001-000937	REF-CF,68,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR18	124.6	127.7	2001-000086	REF-CF,100K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR19	127	134.2	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR20	89.6	145.3	2002-001001	22ohm,10%,1/2W,AA,TP	150V,-1300 TO +350PPM/C,R-AX,3.5x9.5mm	
RR21	116.9	38.1	2001-000301	R-COMPOSITION	REF-CF,10,5%,1/6W	
RR22	114.2	44.6	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR23	111.7	38.1	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR24	109.2	44.6	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR25	126.4	51.4	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR26	114.5	58.2	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR27	102.7	58.1	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR28	106.7	38.1	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR29	95.9	60.5	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR30	106.2	19.4	2001-000301	REF-CF,10,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR31	106.2	26.7	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR32	110.5	34.7	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR33	113	26.7	2001-000526	REF-CF,22,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR34	91.3	129.9	2001-000097	REF-CF,1M,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR35	85.4	100.6	2001-000075	39Kohm,5%,1/6W,AA,TP	150V,-1300 TO +350PPM/C,R-AX,1.8x3.2mm	
RR36	93.8	129.9	2001-000097	R-CARBON	REF-CF,1M,5%,1/6W	
RR37	87.9	129.9	2002-000121	REF-CC,1M ,10%,1/2W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR38	95	110.2	2001-000086	REF-CF,100K,5%,1/6W	350V,-1000 TO -500PPM/C,R-AXIAL	
RR39	82.7	109.6	2001-000108	REF-CF,18K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR40	75.6	154.6	2001-000547	270Kohm,5%,1/6W,AA,TP	150V,-1300 TO +350PPM/C,R-AX,1.8x3.2mm	
RR41	82.2	129.9	2001-000029	R-CARBON	REF-CF,100,5%,1/6W	
RR42	74.5	110.6	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR43	84.6	129.9	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
RR45	110.9	85.7	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
X101	55.3	78.8	2801-003244	150V,-1300 TO +350PPM	5MHz,50ppm,28-AAM,23pF,50ohm,T	

10-4 Micom PCB

10-4-1 Top View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120
130
140
Y
X
150
160
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180
190
200
210
220
230
240
250
CNIC262
CNIC210
CNIC202
SMD JIG POINT
4 x 5mm
4mm
JP3
JP1
JP2
JP4
OP201
G21P
PIC
MC14052
24LC21
28 PIN IC SOCKET
DLAB520A
SMD
54HC4046
74HC86
CGX1609 MICOM PCB
CODE NO.:BH41-10341F
REV : MP 1.3 97/6/5
20 IC SOCKET
74HC374
52 PIN
74HC373
CN201
123.5mm
SAMSUNG
ELECTRONICS CO.,LTD
DISPLAY DIVISION
G21P TEAM
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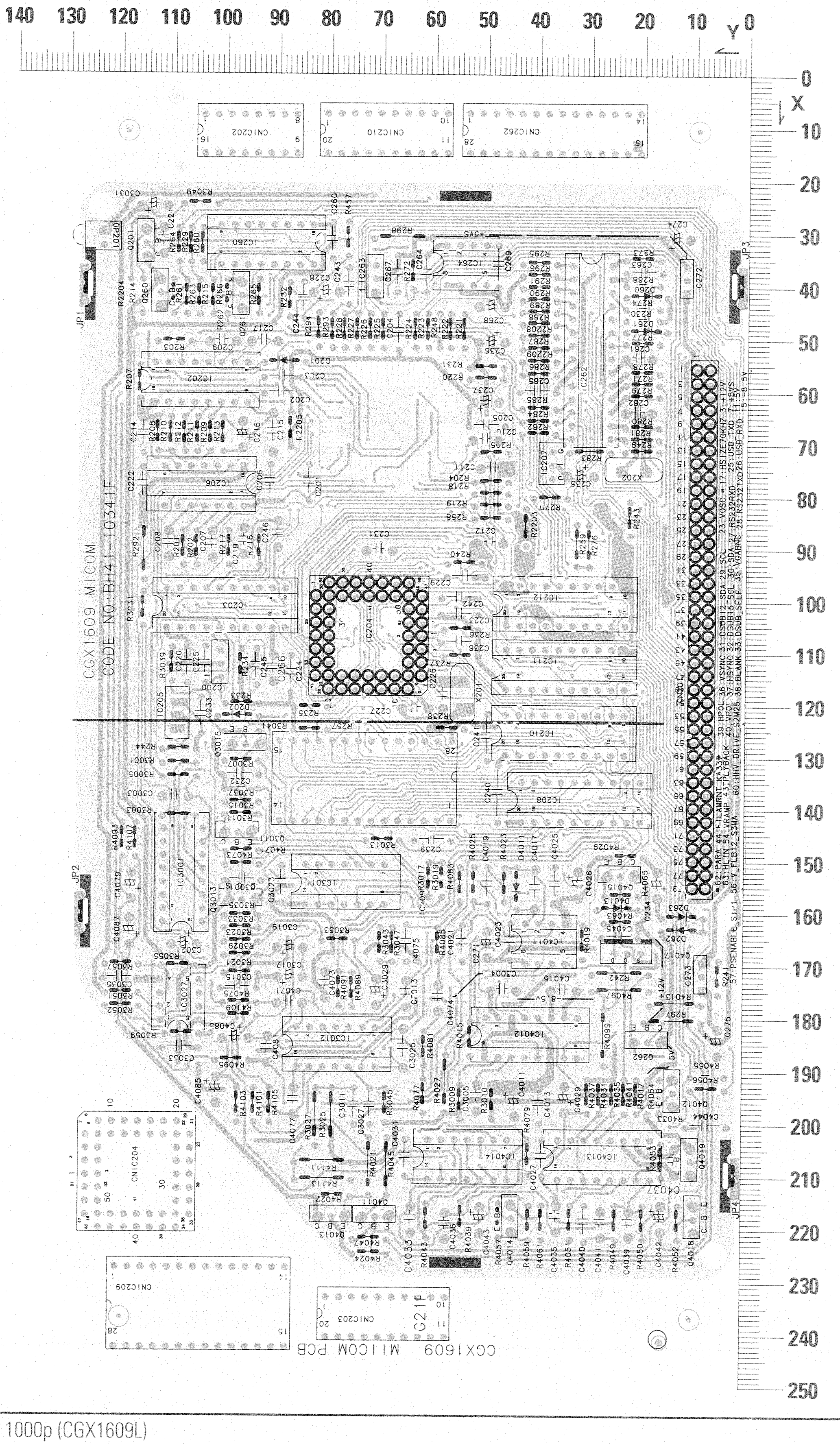
KA324
MC14046
CNIC204
CNIC203
CNIC209
X202
X201

10-4-2 Bottom View



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X
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CNIC210
CNIC262
CNIC204
CNIC209
CNIC203
CGX1609 MICOM
CODE NO:BH41-10341F
CGX1609 MICOM PCB
IC260
IC202
IC206
IC203
IC204
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IC208
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IC3001
IC3011
IC3012
IC3027
IC4011
IC4012
IC4013
IC4014
X201
X202
JP1
JP2
JP3
JP4

10-4-3 Micom PCB Parts

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
C201	80.9	84.6	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C202	60.4	86.6	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C203	57.4	86.5	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C204	52.1	67.6	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C205	66.5	54.1	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C206	80.9	92.1	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C207	86.7	103.2	2201-000247	CAP-CERAMIC,150J,1H,NPO	15PF,50V,5%,NPOPPM,NPO,DISC-R	
C208	86.7	111.6	2201-000247	CAP-CERAMIC,150J,1H,NPO	15PF,50V,5%,NPOPPM,NPO,DISC-R	
C209	50.5	104	2201-000009	CAP-CERAMIC,220J,1H,NPO	22PF,50V,5%,NPOPPM,NPO,DISC-RAD	
C210	69.3	53.4	2305-000280	C-FILM,MPEF	220nF,10%,63V,7.5x13.5mm,5mm,T	
C211	74.6	51.8	2201-000138	CAP-CERAMIC,101K,1H,Y5P	100PF,50V,10%,Y5P,DISC-RADI	
C212	88.9	47.3	2201-000522	C-CERAMIC,DISC	4.7nF,+80-20%,50V,Y5V,4x3,5,TP	
C214	64.8	116.6	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C215	64.2	91.7	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)250V 104J	
C216	70.7	97.5	2401-000597	CAP-AL.ELEC,105M,1H,4X7	(T)50V 1M	
C217	50.5	91	2201-000615	CAP-CERAMIC,560J,1H,SL	56PF,50V,5%,P350TON1000PPM,SL,D	
C219	91.1	97.1	2201-000379	CAP-CERAMIC,223Z,1H,Y5V	22NF,50V,-20 TO 80%,-80TO30%,Y5	
C220	108.8	107.8	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C221	33.7	113	2201-000144	CAP-CERAMIC,101J,1H,NPO	100PF,50V,5%,NPOPPM,NPO,DISC-	⚠
C222	81.5	116.6	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C223	102.6	52	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C224	117.4	87.8	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C225	115.8	104.3	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C226	115.6	58.6	2201-000010	C-CERAMIC,DISC	33pF,5%,50V,NPO,5x3.5,5,TP	
C227	120.6	61.4	2201-000010	C-CERAMIC,DISC	33pF,5%,50V,NPO,5x3.5,5,TP	
C228	41	84.1	2401-001626	C-AL	6.8uF,20%,50V,GP,5x11mm,2mm,TP	
C229	95.5	58	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C231	90.4	68.5	2202-000394	CAP-CERAMIC,102J,2A	1NF,100V,5%,NPO,RE-RADIAL,DIPPE	
C232	133.3	101	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C233	125.5	105.1	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C234	156.6	16.9	2401-001509	CAP-AL.ELEC,476M	(T)16V 47M,1C,6.3X7MM	
C235	76.1	29.9	2401-001509	CAP-AL.ELEC,476M	(T)16V 47M,1C,6.3X7MM	
C236	50.5	47.2	2401-001509	CAP-AL.ELEC,476M	(T)16V 47M,1C,6.3X7MM	
C237	62	53.3	2401-001509	CAP-AL.ELEC,476M	(T)16V 47M,1C,6.3X7MM	
C238	108	52	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C239	145.8	56.9	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C240	131.3	47.8	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C241	121.5	50	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C242	99.5	52	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C243	43.4	77.2	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C244	46	86	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C245	109.1	94.5	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C246	89.7	90.6	2305-000162	C-FILM,MPEF	10nF,10%,100V,14.5x8.5mm,5mm,T	
C260	27.6	80.4	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C261	53.6	23.8	2201-000197	CAP-CERAMIC,100D,1H,NPO	10PF,50V,0.5PF%,NPOPPM,NPO,DISC	
C262	64	18.9	2201-000197	CAP-CERAMIC,100D,1H,NPO	10PF,50V,0.5PF%,NPOPPM,NPO,DISC	
C263	37.3	23.9	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
C264	41	62.4	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C265	60.1	37.3	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C266	110.4	91.2	2201-000009	CAP-CERAMIC,220J,1H,NPO	22PF,50V,5%,NPOPPM,NPO,DISC-RAD	
C267	34	67.9	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C268	43.7	47.3	2401-001509	CAP-AL.ELEC,476M	(T)16V 47M,1C,6.3X7MM	
C269	40	48.6	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C271	168.1	49.7	2401-001509	CAP-AL.ELEC,476M	(T)16V 47M,1C,6.3X7MM	
C272	36	12.3	2901-000192	FILTER-LPF,EMI,LC,470PF	20%,AMMO PACK,-25 TO 85C,50VDC	
C273	174	9.2	2901-000192	FILTER-LPF,EMI,LC,470PF	20%,AMMO PACK,-25 TO 85C,50VDC	
C274	30.7	16.7	2403-000187	C-TA,DIPPED	33uF,10%,20V,WT,8.4x12.7mm,5mm	
C275	181.7	5.1	2403-000187	C-TA,DIPPED	33uF,10%,20V,WT,8.4x12.7mm,5mm	
C3001	153.5	100.3	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C3003	137.6	107.5	2305-000138	C-FILM,MPEF	100nF,10%,63V,7.5x12.5mm,5mm,T	
C3004	174.4	49	2202-000470	C-CERAMIC,MLC-RADIAL	330pF,5%,100V,NPO,5.1x5.1x3.2	
C3005	197.4	51.4	2301-000016	C-FILM,PEF	22nF,5%,100V,7.2x4.5x9.0mm,5mm	
C3011	193.1	74.9	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C3013	172.6	65.1	2305-000415	CAP-MPETP,473K,2A,5P	(T)100V 473K	
C3015	174.1	94	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C3017	171.9	90.1	2401-000443	CAP-AL,ELEC,106M,1E,5X5	(T)10UF,25V,20%,R-RADIAL	
C3019	166.3	90.1	2401-000443	CAP-AL,ELEC,106M,1E,5X5	(T)10UF,25V,20%,R-RADIAL	
C3021	165.7	105.6	2401-000050	C-AL	10uF,20%,16V,GP,5x11mm,2mm,TP	⚠
C3023	157.6	89.3	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C3025	181.7	65.5	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)250V 104J	
C3027	193.1	71.8	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C3029	177.2	70.8	2401-000030	C-AL	22uF,20%,25V,GP,5x11mm,5mm,TP	
C3031	24.5	117.4	2401-001281	C-AL	4.7uF,20%,50V,WT,5x11mm,5mm,TP	
C3033	185.6	105.1	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C3035	172.3	116.9	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C4011	193.4	44.1	2401-001509	CAP-AL.ELEC,476M,1C	(T)16V 47M,6.3X7MM	
C4013	192.8	39.3	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C4015	174.4	37.3	2202-000470	C-CERAMIC,MLC-RADIAL	330pF,5%,100V,NPO,5.1x5.1x3.2	
C4017	158.7	40.4	2305-000009	CAP-MPETP,104J,2E,7.5P	(T)250V 104J	
C4019	150.8	49.6	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C4021	161.9	54.4	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C4023	168.5	45.2	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C4025	157.8	36.6	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C4026	151.6	32.2	2401-000443	CAP-AL,ELEC,106M,1E,5X5	(T)10UF,25V,20%,R-RADIAL	
C4027	209.9	38.7	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C4029	197.7	34.5	2401-001509	CAP-AL.ELEC,476M,1C	(T)16V 47M,6.3X7MM	
C4031	209.9	65	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C4033	215.7	63.8	2201-000416	C-CERAMIC,DISC	270pF,5%,50V,SL,8.0X4.0,5,TP	
C4035	215.4	35.9	2202-000470	C-CERAMIC,MLC-RADIAL	330pF,5%,100V,NPO,5.1x5.1x3.2	
C4036	216.9	57.3	2202-000470	C-CERAMIC,MLC-RADIAL	330pF,5%,100V,NPO,5.1x5.1x3.2	
C4037	204.5	13.1	2202-000003	C-CERAMIC,MLC-RADIAL	680pF,0.02,100V,NPO,5.1x5.1x3.	
C4039	216.5	21.9	2305-000359	CAP-MPETP,333K,2A,5P	(T)100V 333K	⚠
C4040	222.4	30.5	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C4041	221.5	27.3	2305-000291	CAP-MPETP,224J,1J,5P	(T)63V 224J	⚠

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
C4042	215.4	15.8	2401-000597	CAP-AL.ELEC,105M,1H,4X7	(T)50V 1M	
C4043	215.7	50.6	2401-000597	CAP-AL.ELEC,105M,1H,4X7	(T)50V 1M	
C4044	200.4	11.2	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C4045	164.2	20.6	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C4071	176.9	90.1	2305-000162	C-FILM,MPEF	10nF,10%,100V,14.5x8.5mm,5mm,T	
C4073	175.9	80.7	2202-000349	CAP-CERAMIC,103J,2A	10NF,100V,5%,X7R,RE-RADIAL,DIPP	
C4074	178.4	58.9	2305-000291	CAP-MPETP,224J,1J,5P	(T)63V 224J	⚠
C4075	161.9	65.1	2202-002009	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,2.3X3.0	
C4077	198.1	86.7	2305-000162	C-FILM,MPEF	10nF,10%,100V,14.5x8.5mm,5mm,T	⚠
C4079	157	118.4	2401-001626	C-AL	6.8uF,20%,50V,GP,5x11mm,2mm,TP	
C4081	188.2	91.9	2305-001011	C-FILM,MPEF	22nF,5%,100V,3.5x12.5x7.5mm,5m	
C4083	183.7	95.5	2401-000026	C-AL	3.3uF,20%,50V,GP,5x11mm,5mm,TP	⚠
C4085	191	101.7	2401-000023	C-AL	1uF,20%,50V,GP,5x11mm,5mm,TP	
C4087	165.8	118.6	2401-001626	C-AL	6.8uF,20%,50V,GP,5x11mm,2mm,TP	
CN201	56	10	3710-001055	CONNECTOR-SOCKET	80P,2R,2.54mm,ANGLE,AUF	
CNIC202	6.7	105.2	3704-000161	SOCKET-IC	16P,DIP,SN,2.54mm	
CNIC203	233.1	80	3704-000189	CON-IC SOCKET,20P	DIP,STRAIGHT,SN	
CNIC204	209.8	126.9	3704-000297	SOCKET-IC	52P,PLCC,SN,2.54mm	
CNIC209	227.4	121	3704-000235	SOCKET-IC	28P,DIP,SN,2.54mm	
CNIC210	6.7	81.5	3704-000189	CON-IC SOCKET,20P	DIP,STRAIGHT,SN	
CNIC262	6.7	54.3	3704-000239	SOCKET-IC	28P,DIP,SN,2.54mm	
D201	54.5	85.5	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D202	122.2	94	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D260	41.9	23.9	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D261	48.6	23.9	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D262	163	8	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D263	160.4	16	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D4011	150.9	44	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
D4013	158.9	28.6	0401-000005	DIODE-SIG,1N4148,DO-35	75V,150MA,1V,10MA	
IC200	114.7	101.4	1202-000139	IC-LIN,34064,V-SENSING	TO-220,3,5V	
IC201	66	69.5	BH13-10301C	IC-ASIC	CSG9511,DLAB520A,INTERFACE	⚡
IC202	54.5	114.5	0801-001026	IC-MOS,54HC4046A,PLL	DIP,16,SINGLE	⚡
IC203			BH96-80016G	IC-PAL	CGX1609,16L8,20P,ASS'Y-MICOM	⚡
IC204	107	62.6	0902-000278	IC-MICROPROCESSOR	68HC11,8BIT,PLCC,52P,2MHz,TR	⚡
IC205	119.4	109.5	1203-000003	IC-LIN,317,REGULATOR	TO-220,3	
IC206	81.9	97.3	0801-000392	IC-MOS,74HC86,GATE	DIP,4,300MIL,QUAD	
IC207	71.4	37.9	1203-000118	IC-LIN,7905,REGULATOR	TO-220,3,-5V	
IC208	134.5	43.3	0801-000969	IC-CMOS LOGIC	74HC373,D LATCH,DIP,16P,300MIL	
IC209			BH96-80016E	IC-EPROM	CGX1609,EPROM,27C256,28P,ASS'Y-MICOM	⚡
IC210			BH96-80016H	IC-PAL	CGX1609,16L8,20P,ASS'Y-MICOM	⚡
IC211	109.2	46.5	0801-000020	IC-CMOS LOGIC	74HC374,D FLIP-FLOP,DIP,20P,30	
IC212	97	46.5	0801-000020	IC-CMOS LOGIC	74HC374,D FLIP-FLOP,DIP,20P,30	
IC260	35.8	84.2	0801-000213	IC-MOS,14052,MULTIPLEXER	DIP,16,300MIL,DUAL	
IC262			BH96-80016F	U-PROCESSOR	CGX1609,PIC16C73A,ASS'Y-MICOM	⚡
IC263	40.9	72.2	1202-000139	IC-LIN,34064,V-SENSING	TO-220,3,5V	
IC264	32	58.6	1103-001009	IC-EEPROM	24LC21,128X8BIT,DIP,8P,300MIL	⚡
IC3001	161.4	112.2	0801-000213	IC-MOS,14052,MULTIPLEXER	DIP,16,300MIL,DUAL	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
IC3011	150.4	84.7	0801-001024	IC-MOS,14066,SWITCH	DIP,14,300MIL,QUAD	
IC3012	181.5	86.2	1201-000229	IC-LIN,324,OP AMP	DIP,14,QUAD	
IC3027	180.2	112.7	1201-000420	IC-OP AMP	358,DIP,8P,300MIL,DUAL,100V/mV	
IC4011	161.6	42.3	1201-000420	IC-OP AMP	358,DIP,8P,300MIL,DUAL,100V/mV	
IC4012	179.5	49.9	0801-000660	IC-MOS,74HC221,MULTIVIBR	DIP,16,300MIL,DUAL	⚠
IC4013	202.9	35.7	1209-000158	IC-MOS,14046,PLL	DIP,16,300MIL,SINGLE	⚠
IC4014	202.9	60.7	0801-001024	IC-MOS,14066,SWITCH	DIP,14,300MIL,QUAD	
JP1	43.1	128	BH39-40305U	JUMPER	JUMPER	
JP2	163.3	128	BH39-40305U	JUMPER	JUMPER	
JP3	43.2	1.5	BH39-40305U	JUMPER	JUMPER	
JP4	213.2	1.6	BH39-40305U	JUMPER	JUMPER	
OP201	32.1	124.6	0601-000463	LED	ROUND,G/O,4.8mm,565/585nm	
Q201	29.2	116.3	0501-000483	TR-NPN,MPS2222A,TO-92	0.625W,75V,40V,6V,0.6A	
Q260	38.7	113.6	0501-000411	TR-PNP,MPS2907A,TO-92	0.625W,60V,60V,5V,0.6A	
Q261	44.2	97.9	0501-000483	TR-NPN,MPS2222A,TO-92	0.625W,75V,40V,6V,0.6A	
Q262	184.1	21	0501-000492	TR-NPN,MPS3646,TO-92	40V,15V,5V,0.3A	
Q3011	144.3	95.3	0501-000483	TR-NPN,MPS2222A,TO-92	0.625W,75V,40V,6V,0.6A	
Q3013	157.2	94.5	0505-000015	FET	ZVP2106A,P,-60V,-280mA, 5oHM,7	
Q3015	127.5	99	0501-000483	TR-NPN,MPS2222A,TO-92	0.625W,75V,40V,6V,0.6A	
Q4011	217.7	68.1	0501-000483	TR-NPN,MPS2222A,TO-92	0.625W,75V,40V,6V,0.6A	
Q4012	196.3	13.6	0501-000492	TR-NPN,MPS3646,TO-92	40V,15V,5V,0.3A	
Q4013	217.7	76.5	0501-000492	TR-NPN,MPS3646,TO-92	40V,15V,5V,0.3A	
Q4014	220.4	44.6	0501-000483	TR-NPN,MPS2222A,TO-92	0.625W,75V,40V,6V,0.6A	
Q4015	152.4	26.6	0501-000483	TR-NPN,MPS2222A,TO-92	0.625W,75V,40V,6V,0.6A	
Q4017	167.1	20.1	0505-000013	FET-N,VN2222LL	0.4W,60V,0.15A,TO-226AA,SGD	
Q4018	215.4	9.4	0501-000586	TR-SMALL SIGNAL	KSC945-Y,NPN,250mW,TO-92,TP,12	
Q4019	209.4	10.1	0501-000586	TR-SMALL SIGNAL	KSC945-Y,NPN,250mW,TO-92,TP,12	
R201	86.6	108.8	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R202	86.6	106.2	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R203	50.5	107.5	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R204	77.3	52.9	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R205	71.7	52.9	2001-000097	REF-CF,1M,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R207	55.1	117.4	2001-000457	REF-CF,2.2,5%,1/6W	150V,-1000 TO +500PPM/C,R-AXIAL	
R208	64.8	113.8	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R209	64.9	103.7	2001-000106	REF-CF,1.5K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R210	71.4	111.3	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R211	64.9	106.2	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R212	64.9	108.7	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R213	64.9	101.3	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R214	38.5	117	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R215	38.7	106	2001-000889	REF-CF,6.8K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R216	93.1	94.2	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R217	86.6	100	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	⚠
R218	79.5	46.4	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R219	81.8	46.4	2001-000057	REF-CF,5.1K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R220	57.6	54	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R221	51.6	55	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
R222	45.1	57.7	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R223	45.1	62	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R224	45.1	64.4	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R225	45.1	70.6	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R226	45.1	73	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R227	45.1	75.5	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R228	45.1	77.9	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R229	35.2	107.7	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	⚠
R230	46.3	17.4	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R231	55.4	54	2001-000051	REF-CF,2.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R232	39.3	88.6	2001-000054	R-CARBON	3.9Kohm,5%,1/6W,AA,TP,1.8x3.2m	
R233	119.7	94	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R234	115.6	97.5	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R235	120.4	80.7	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R236	105.5	52	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R237	110.6	58.5	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R238	124.5	54.4	2001-000100	REF-CF,2.2M,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R240	92.9	51.4	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R241	168.6	5.1	2001-000104	REF-CF,1.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R242	171.3	18.5	2001-000044	REF-CF,1.2K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R243	87.4	22.8	2001-000301	REF-CF,10,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R244	128.5	112.5	2001-000957	REF-CF,750,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R248	45.1	59.8	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R249	71.5	17.4	2001-000457	REF-CF,2.2,5%,1/6W	150V,-1000 TO +500PPM/C,R-AXIAL	
R257	124.7	87.2	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R258	84.4	52.9	2001-000652	REF-CF,330,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R259	93.3	33	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R260	35.2	105.4	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R261	38.6	111	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R262	38.7	100.7	2001-000057	REF-CF,5.1K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R263	38.7	108.4	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R264	35.2	110	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R265	38.6	94.6	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R266	45.2	103.4	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R268	39.7	23.9	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R270	80.4	41.5	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R271	58.7	17.4	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R272	34	64.9	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R273	34.7	17.4	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R274	44.2	17.4	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R276	93.4	30.6	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R277	50.9	17.4	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R278	56.5	17.4	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R279	61	17.4	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R280	66.8	17.4	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R281	69.2	17.4	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R282	68.1	37.3	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
R283	71.5	34.7	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R284	65.8	37.3	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R285	63.3	37.3	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R286	56.8	37.3	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R287	51.9	37.3	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R288	47.2	37.3	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R289	44.9	37.3	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R290	42.6	37.3	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R291	40.2	37.3	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R292	96	116.3	2001-000110	R-CARBON	10ohm,5%,1/4W,AA,TP,2.4x6.4mm	
R293	51.6	80.3	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R294	51.4	82.9	2001-000035	REF-CF,220,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R295	35.6	43.8	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R296	37.9	43.8	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R297	180.4	8.3	2001-000016	REF-CF,1,5%,1/2W(S	350V,-1300 TO +350PPM/C,R-AXIAL	
R298	30.7	61.5	2001-000109	REF-CF,470,5%,1/2W(S	300V,-200 TO +200PPM/C,R-AXIAL	
R457	34.1	77.4	2001-000106	REF-CF,1.5K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R2203	82.4	42.8	2001-000652	REF-CF,330,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	⚠
R2204	45.1	119.3	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R2205	70.5	88.3	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R2208	49.5	37.3	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R2209	54.3	37.3	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R3001	131.1	112.5	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R3003	141.2	112.5	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R3005	133.8	112.5	2001-000644	R-CARBON	330Kohm,5%,1/6W,AA,TP,1.8x3.2m	
R3007	130.7	100.5	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R3009	198.9	54.6	2001-000069	REF-CF,12K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R3010	192.4	48.4	2001-000301	REF-CF,10,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R3011	141	94	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R3013	145.8	66.6	2001-000722	R-CARBON	4.3Kohm,5%,1/6W,AA,TP,1.8x3.2m	
R3015	138.6	94	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R3017	156.5	60.9	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R3019	150	58.4	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R3021	171.3	100.4	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R3023	165.2	93.8	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R3025	204.1	79.2	2004-000432	REF-MF,1K,1%,1/4W	250V,-100 TO +100PPM/C,R-AXIAL	
R3027	193.1	82.3	2004-000432	REF-MF,1K,1%,1/4W	250V,-100 TO +100PPM/C,R-AXIAL	
R3029	167.8	93.8	2001-000074	REF-CF,33K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R3031	98.4	116.4	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R3033	162.6	100.4	2001-000086	REF-CF,100K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R3035	160.2	93.8	2001-000086	REF-CF,100K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	⚠
R3037	136	100.5	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R3039	115.3	110.7	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R3041	125	100.5	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R3043	162.4	70.2	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R3045	199.6	69	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R3047	168.9	67.8	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
R3049	24.2	102.7	2001-001030	R-CARBON	91Kohm,5%,1/6W,AA,TP,1.8x3.2mm	
R3051	175.1	123.4	2001-001030	R-CARBON	91Kohm,5%,1/6W,AA,TP,1.8x3.2mm	
R3052	177.6	123.4	2001-000644	R-CARBON	330Kohm,5%,1/6W,AA,TP,1.8x3.2m	
R3053	165	81.5	2001-000836	REF-CF,51K,5%,1/6W	150V,-1300 TO +350PPM/C,1.9X3.2	
R3055	169.9	105.9	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R3057	169.6	116.9	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R3059	182.9	105.1	2001-000301	REF-CF,10,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4013	177.1	8.3	2001-000652	REF-CF,330,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4015	180.4	52.7	2001-000080	R-CARBON	62Kohm,5%,1/6W,AA,TP,1.8x3.2mm	⚠
R4017	191.3	20.6	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4019	168.4	31.2	2001-000057	REF-CF,5.1K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4021	202.6	71.9	2004-000742	R-METAL	300Kohm,1%,1/4W,AA,TP,2.4x6.4m	
R4022	213.9	75.6	2001-000089	REF-CF,150K,5%,1/6W	150V,-1300 TO + 350PPM/C,R-AXIA	⚠
R4023	157.4	46.4	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4024	224.9	75	2001-000059	REF-CF,5.6K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4025	150.8	52.3	2001-000086	REF-CF,100K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4027	197.8	57.4	2001-000561	REF-CF,27K,5%,1/4W	250V,-600 TO -150PPM/C,R-AXIAL	
R4029	148.8	26.2	2001-000301	REF-CF,10,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4031	191.3	27.7	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R4033	191.3	16.2	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4035	191.3	25.2	2001-000324	REF-CF,120,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4037	191.3	30.1	2001-000301	REF-CF,10,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4039	221.3	54.2	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4041	197.8	22.9	2001-000029	REF-CF,100,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4043	215.2	60.9	2001-000976	REF-CF,8.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4045	202.6	68.5	2001-000047	REF-CF,2.2K,5%,1/4W	250V,-350 TO +350PPM/C,R-AXIAL	
R4047	222.1	75	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4049	215.4	24.5	2001-000923	R-CARBON	680ohm,5%,1/6W,AA,TP,1.8x3.2mm	
R4050	215.4	19.3	2001-000553	R-CARBON	270ohm,5%,1/6W,AA,TP,1.8x3.2mm	
R4051	215.4	33.2	2001-000089	REF-CF,150K,5%,1/6W	150V,-1300 TO + 350PPM/C,R-AXIA	
R4052	222	12.5	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4053	210.1	15.8	2001-000067	REF-CF,10K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4054	191.3	18.5	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4055	190.7	10.3	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4056	193.4	10.2	2001-000722	R-CARBON	4.3Kohm,5%,1/6W,AA,TP,1.8x3.2m	
R4057	221.6	47	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4059	215.4	41.2	2001-000069	REF-CF,12K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4061	215.4	38.7	2001-000531	REF-CF,240K,5%,1/8W	150V,-1000 PPM/C,R-AXIAL	
R4063	161.4	20.6	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R4065	156.3	27.1	2001-000048	REF-CF,2.2K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4071	147.9	93.8	2001-000889	REF-CF,6.8K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4073	150.5	100.3	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4075	176.9	100.5	2001-000091	REF-CF,220K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4077	197.8	61.6	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R4079	202.9	41.4	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R4081	188.7	61.6	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4083	150.9	54.9	2001-000056	REF-CF,4.7K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	

Loc. No.	Coordinates (X,Y)		New Code No.	Description	Specification	Remarks
R4085	168.9	59.1	2001-000077	REF-CF,47K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4089	171	75.5	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R4091	170.9	78	2001-000043	REF-CF,1K,5%,1/6W	150V,-1300 TO +350PPM,R-AXIAL	
R4093	142.5	120.1	2001-000889	REF-CF,6.8K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4095	187.9	101.9	2001-000094	R-CARBON	560Kohm,5%,1/6W,AA,TP,1.8x3.2m	
R4097	174.5	29.4	2004-001005	R-METAL	5.1Kohm,1%,1/4W,AA,TP,2.4x6.4m	
R4099	188.7	27	2004-000679	R-METAL	2Kohm,1%,1/4W,AA,TP,2.4x6.4mm	
R4101	199.6	94.4	2001-000088	R-CARBON	120Kohm,5%,1/6W,AA,TP,1.8x3.2m	
R4103	193.1	97.6	2001-000367	R-CARBON	15Kohm,5%,1/6W,AA,TP,1.8x3.2mm	
R4105	199.6	91.3	2001-000083	R-CARBON	82Kohm,5%,1/6W,AA,TP,1.8x3.2mm	⚠
R4107	142.5	117.6	2001-000889	REF-CF,6.8K,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4109	179.4	100.5	2001-000100	REF-CF,2.2M,5%,1/6W	150V,-1300 TO +350PPM/C,R-AXIAL	
R4111	207.4	86.4	2004-001005	R-METAL	5.1Kohm,1%,1/4W,AA,TP,2.4x6.4m	
R4113	210.8	75.3	2004-000679	R-METAL	2Kohm,1%,1/4W,AA,TP,2.4x6.4mm	
X201	120.4	54.7	2801-000005	CRYSTAL-UNIT	8MHz,50ppm,28-AAM,S,35ohm,TP	
X202	75	24.6	2801-003033	CRYSTAL-UNIT	4MHz,30ppm,28-AAM,20pF,100ohm	

Others

Loc. No.	Code No.	Description	Specification	Remarks
CRT	BH03-10335V	CRT-COLOR	25",0.25,DYNAMIC,M54KYY511X52	
CRT GND	BH39-40355N	CBF-CRT GROUND	1P,550MM,BLK,UL1015,AWG18	
C/G CABLE	BH39-40355Y	CONVERGENCE CABLE	8P,300MM,RED/WHT,UL1007,AWG22	
D-COIL	BH27-10334Q	DEGAUSSING COIL	456*366-2650,11.0MH,10.8OHM,8	
MAGNET RUBBER	3302-000006	MAG-RUBBER MAGNET	AF,14G,1620-1980G,0.58-0.9 MGOE	
PROCESS-PWA UNIT	BH97-30002G	ASS'Y PBA	ASS'Y/PBA	
ASS'Y PCB MAIN	BH98-10001Z	ASS'Y PCB	ASS'Y PCB/MAIN	
ASS'Y PCB VIDEO	BH98-20001L	ASS'Y PCB	ASS'Y PCB/VIDEO	
ASS'Y PCB POWER	BH98-30001A	ASS'Y PCB	ASS'Y PCB/POWER	
ASS'Y PCB MICOM	BH98-70001A	ASS'Y PCB	ASS'Y PCB/MICOM	
P/CORD	BH39-10005A	CBF-POWER/CORD	CAP,1VR,1220MM,220V	IBM CAP TYPE
	BH39-10002A	CBF-POWER/CORD	WALL,1VR,1850MM,110V	SEA
	BH39-10006A	CBF-POWER/CORD	WALL,1VR,1830MM,220V	SEAU
	BH39-10007A	CBF-POWER/CORD	WALL,1VR,1830MM,220V	SEUK
	BH39-10307A	CBF-POWER/CORD	WALL,1VR,1830MM,110V	JAPAN
	BH39-10339A	CBF-POWER/CORD	WALL,GRY,1830MM,220V(only S/M model)	SEUK
	BH39-10339N	CBF-POWER/CORD	WALL,1VR,1550MM,220V	CHINA
SIGNAL CABLE	BH39-20336M	CBF-SIGNAL	DET,1830MM,15P/15P,IVORY,UL29	
MAIN-POWER	BH39-40355X	CBF-HARNESS	15P,350MM,RED/WHT,UL1007,AWG22	
KEY-MAIN	BH39-40355Z	CBF-HARNESS	8P,300MM,RED/WHT,UL1007,AWG22	
LED-KEY	BH39-40356A	CBF-HARNESS	4P,150MM,RED/WHT,UL1007,AWG22	
VIEO-CRT (R/W)	BH39-40356B	CBF-HARNESS	6P/3P,150MM,RED/WHT,UL1007/135	
VIDEO-CRT (B/G)	BH39-40356C	CBF-HARNESS	5P,300MM,BLU/GRN,UL1354	
NOISE FILTER	BH39-40356D	CBF-HARNESS	5P,300MM,BLU/GRN,UL1617/1015	
SHIELD SIDE	BH39-40357X	CBF-HARNESS	110MM,BLK,UL1015,AWG18,ST710	

Memo

10-5 Semiconductor Lead Identification

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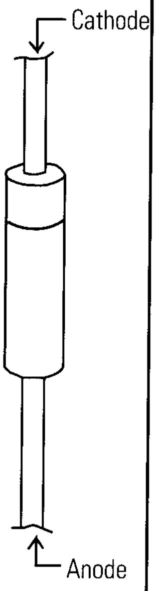	1N4148	DB02, DB04, DB05, DB06, DB07, DB09, DB11, DB12, DB13, DG02, DG04, DG05, DG06, DG07, DG09, DG11, DG12, DG13, DR02, DR04, DR05, DR06, DR07, DR09, DR11, DR12, DR13, D609, D612, D613, D614, D615, D616, D617, D643, D645, D260, D261, D262, D263, D4011, D110, D4013, D102, D108, D293, D294, D301, D415, D510, D521, D535, D541, D542, D643, D543, D544, D545, D546, D547, D112, D117, D201, D202, D409, D410, D414, D428, D430, D511, D512, D513, D514, D515, D516, D520, D525, D526, D527, D528, D529, D530, D531, D532, D533, D618, D619, D111, D113, D114, D115, D116, D120, D121, D122, D123, D124
	ZEN, UZ-5.1B	D426, D427
	ZEN, UZ6.2	ZD201
	ZEN,ZPD18	D642
	ZEN, ZPD2.7	D103
	ZEN, UZ24	D109
	ZEN, RD10EB3	DB03, DG03, DR03
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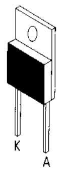	MUR10150E	D425, D505
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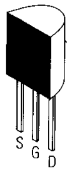
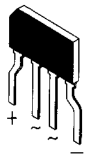
	VN2222LL	Q404, Q405, Q4017
	PSB1006G	D601

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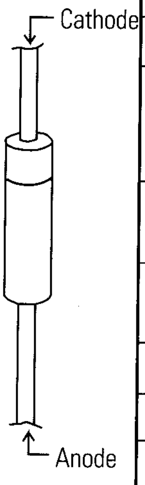	REC, UF5404	D429
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	REC, UF4007	D517, D540, D620, D621, D644, D701
	REC, 1N4001GP	D422, D423, D424, D501, D502, D503, D651, D504
	REC, 1N4937	D419, D420
	REC, RGP02-12	D508, D534
	REC, 31DF6	D622, D623, D624, D625, D626, D627, D506, D507
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	REC, RG2A	D431
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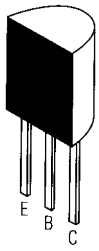	KSC945	Q101, Q104, Q110, Q510, Q4018, Q4019, Q522, Q103
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	MPS2222A	Q401, Q701, Q702, Q703, Q507, Q605, Q205, Q201, Q261, Q515, Q516, Q517, Q518, Q3011, Q4014, Q4015, Q3015, Q4011
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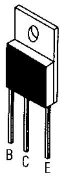	2SC3675	Q512
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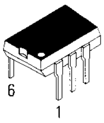
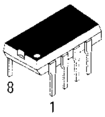
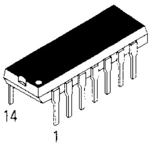
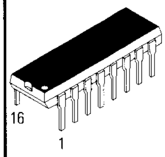
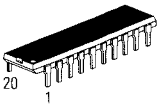
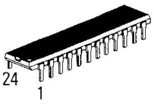
	CQY80NG	IC702, IC703
	24LC21 L272M MC34262 LM358 KA3842B IR2125	IC152, IC264 IC412 IC601 IC3027, IC4011 IC406 IC407
	74HC04 74HC86 LM324 LM319N 74HC125 MC14066BCP	IC106 IC206 IC3012 IC102 IC107 IC3011, IC4014
	74HC221 DL494 L272 MC34067P MC14052BCP MC14046BCP MC14504BCP	IC4012 IC501 IC801, IC802 IC602 IC108, IC260, IC3001 IC4013 IC409
	MC74HC373N MC74HC374N LM1212 SL506A	IC208 IC211, IC212 ICB01, ICG01, ICR01 IC103
	LSC4350	IC104

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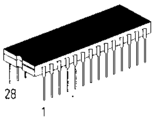
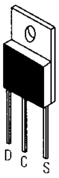
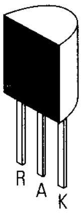
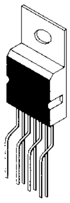
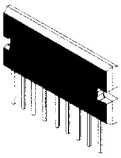
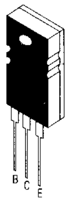
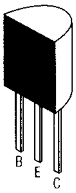
	27C256 PIC16C73	IC209, IC903 IC262
	TOP202 YAI	IC701
	TL431 REGULATOR	IC502, IC504, IC505, IC506, IC704, ICR03, ICG03, ICB03, IC101
	TDA8172	IC303
	VPA18	ICB02, ICG02, ICR02
	MJL16218 MJF16212	Q422 Q504
	KSP10	QB01, QB03, QB04, QG01, QG03, QG04, QR01, QR03, QR04

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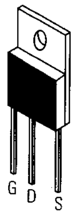
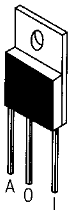
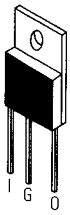
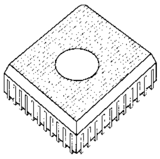
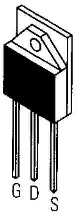
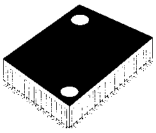
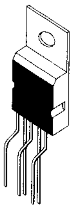
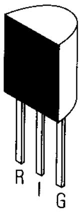
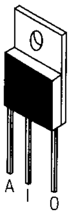
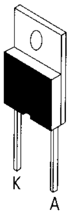
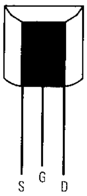
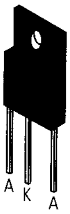
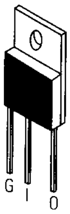
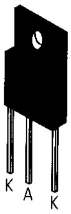
	IRF840 IRF740 IRF640 IRF610	Q602, Q603 Q414, Q502 Q423, Q424, Q425, Q426, Q427, Q428 Q421, Q503		KA317	IC205
	KA7812 KA7805 KA7815	IC605, IC651 IC603, IC604 IC304		68HC11E1	IC204
	2SK1573	Q601		DLAB520A	IC201
	TDA2030A	IC410, IC411		MC34064	IC200, IC263
	KA337	IC105		FMG-G26S	D604
	ZVN3310A ZVP2106A	Q107, Q108, Q105 Q3013		FMG-24S	D628, D630
	7905	IC207		FMG-24R	D629

11 Schematic Diagrams

11-1 Cautions

1. The areas marked with a ⚠, ⚡ or ☢ on the schematic diagram designate components which have special characteristics important for safety. Replace these parts only with parts identical to those in the original circuit and those specified in the parts list. Before replacing any of these components, carefully read the "Product Safety Notice."
2. Areas marked with a ☢ on the schematic diagram designate controls which have been sealed for safety during manufacturing. If these controls need adjustment, they must be replaced with new controls and then sealed after their adjustment.
3. When taking measurements, pay special attention to the following:

   1) Do not use your instrument between primary ground (symbol ▽) and secondary circuit.

   2) Do not use your instrument between secondary ground (symbol ⏚) and primary circuit.

11-2 Notes

1. Resistance is shown in OHM. K = 1,000, M = 1,000,000 and the rated power of resistors not noted in the schematic diagram is 1/4W.
2. Capacitance is shown in µF. Capacitances not otherwise noted are shown in pF (1µF = 1,000,000 pF). Rated voltage of condensers not otherwise noted in the schematic diagram is 50 V.

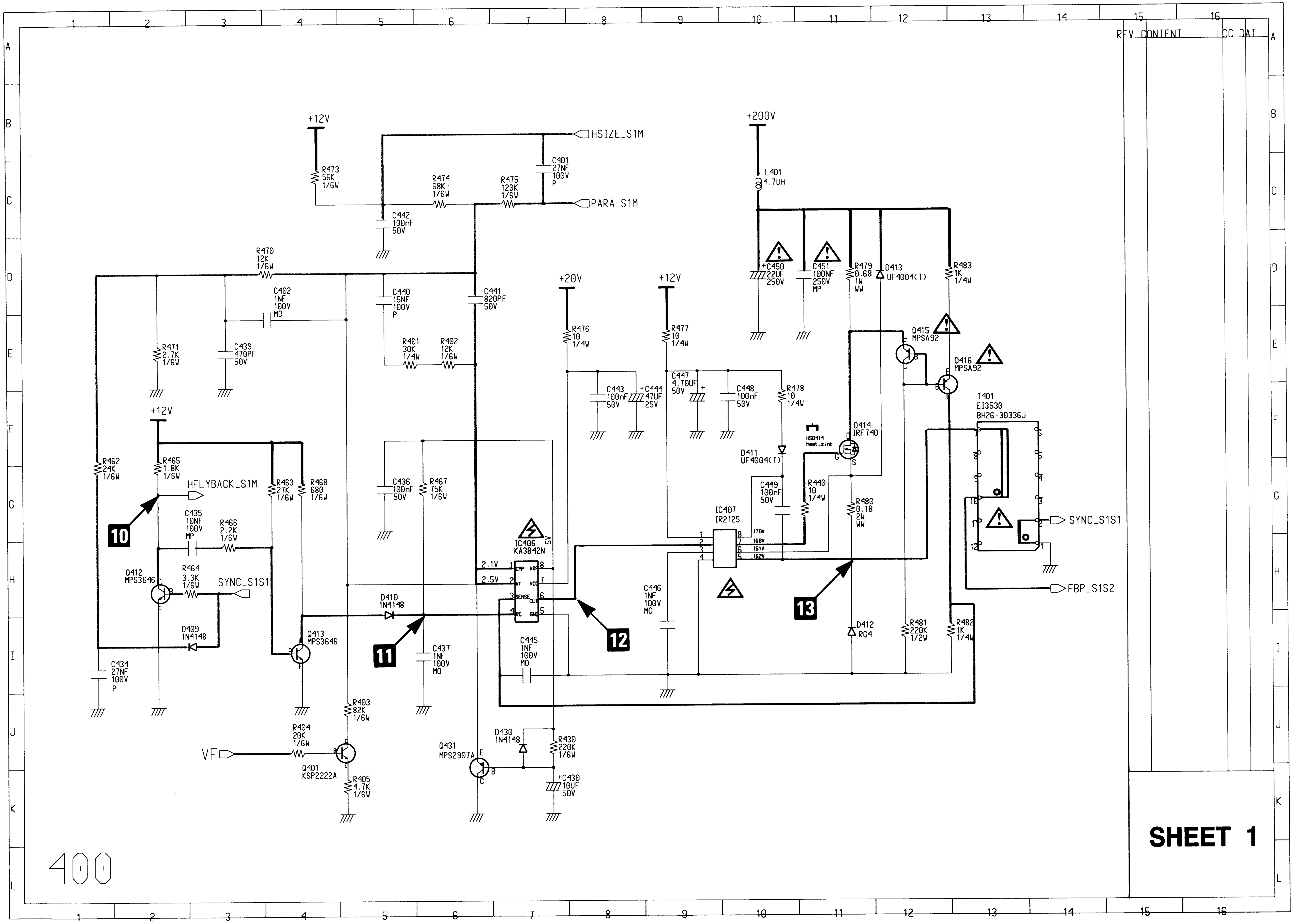
11-3 Abbreviations and Symbols

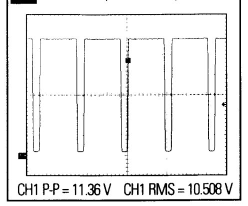
MO	R-Metal Oxide	WW	R-Wire Wound
FU	Fusible	C	R-Composition
CM	R-Cement	MPP	Metal Polypropylene
MP	C-Metalized Polyester	T	C-Tantalum
P	C-Polyester	☢	Can emit X-radiation
▽	Hot Ground	⏚	Cold Ground
⚡	Electrostatically Sensitive Device (ESD)	⚠	Provides special safety considerations

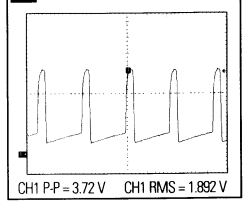
1. The secondary voltage is read with an SSVM from the indicated point to a cold ground (⏚). The primary voltage is read with an SSVM from the indicated point to a hot ground (▽).
2. This schematic diagram is subject to change without notice.

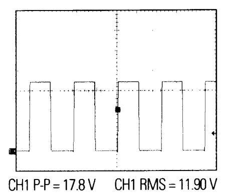
Memo

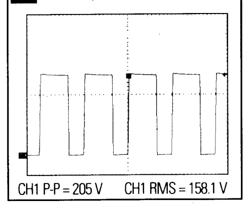
11-4 Main Schematic Diagrams


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J K L
REV CONTENT LOC DAT
+12V
R473 56K 1/6W
HSIZE_S1M
C401 27NF 100V P
R474 68K 1/6W
R475 120K 1/6W
PARA_S1M
C442 100nF 50V
R470 12K 1/6W
C402 1NF 100V MO
C440 15NF 100V P
C441 820PF 50V
R471 2.7K 1/6W
C439 470PF 50V
R401 30K 1/4W
R402 12K 1/6W
+12V
R462 24K 1/6W
R465 1.8K 1/6W
HFLYBACK_S1M
R463 27K 1/6W
R468 680 1/6W
C436 100nF 50V
R467 75K 1/6W
10
C435 10NF 100V MP
R466 2.2K 1/6W
Q412 MPS3646
R464 3.3K 1/6W
SYNC_S1S1
D409 1N4148
Q413 MPS3646
D410 1N4148
11
C437 1NF 100V MO
C434 27NF 100V P
R403 82K 1/6W
R404 20K 1/6W
VF
Q401 KSP2222A
R405 4.7K 1/6W
Q431 MPS2907A
D430 1N4148
R430 220K 1/6W
+C430 10UF 50V
IC406 KA3842N
2.1V
2.5V
CMP VREF VF VCC SENSE OUT RC GND
5V
C445 1NF 100V MO
12
+20V
R476 10 1/4W
C443 100nF 50V
+C444 47UF 25V
+12V
R477 10 1/4W
C447 4.70UF 50V
C448 100nF 50V
R478 10 1/4W
D411 UF4004(T)
C449 100nF 50V
IC407 IR2125
17.0V 16.8V 16.1V 16.2V
C446 1NF 100V MO
R440 10 1/4W
+200V
L401 4.7UH
+C450 22UF 250V
C451 100NF 250V MP
R479 0.68 1W WW
D413 UF4004(T)
R483 1K 1/4W
Q415 MPSA92
Q416 MPSA92
HS0414 heat_sink
Q414 IRF740
R480 0.18 2W WW
13
D412 RG4
R481 220K 1/2W
R482 1K 1/4W
T401 EI3530 BH26-30336J
SYNC_S1S1
FBP_S1S2
SHEET 1
400


10 11.36 V (Q412 #C)

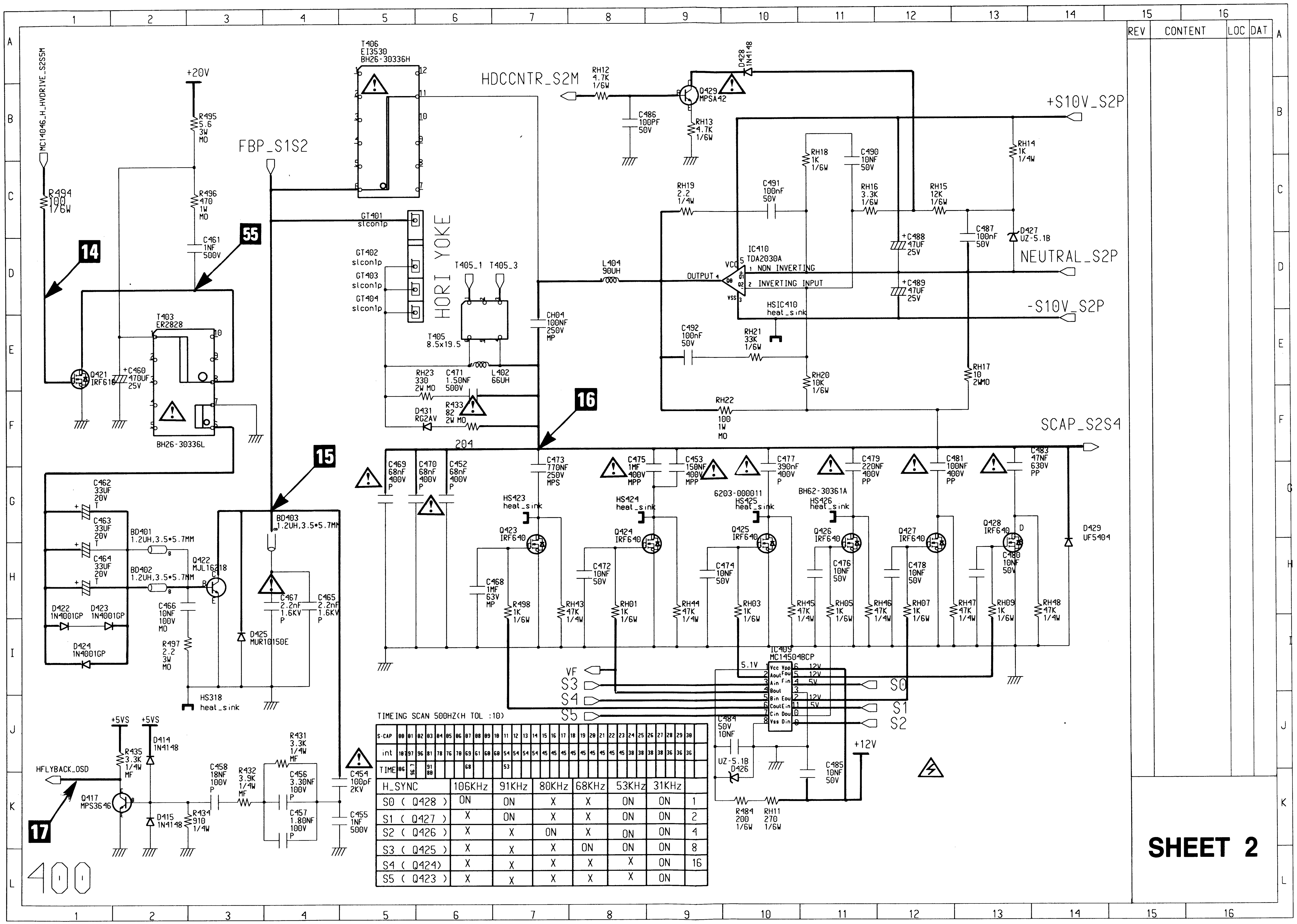

11 3.72 V (IC406 #4)


12 17.8 V (IC406 #6)


13 205 V (IC407 #5)

—— : Power Line

—— : Signal Line

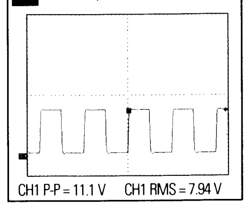

MC14046_H_HVDRIVE_S2S5M
R494 100 1/6W
+20V
R495 5.6 3W MO
R496 470 1W MO
C461 1NF 500V
FBP_S1S2
T406 EI3530 BH26-30336H
HDCCNTR_S2M
RH12 4.7K 1/6W
C486 100PF 50V
Q429 MPSA42
RH13 4.7K 1/6W
D428 1N4148
+S10V_S2P
RH14 1K 1/4W
RH18 1K 1/6W
C490 10NF 50V
RH19 2.2 1/4W
C491 100nF 50V
RH16 3.3K 1/6W
RH15 12K 1/6W
C487 100nF 50V
D427 UZ-5.1B
+C488 47UF 25V
IC410 TDA2030A
NON INVERTING
INVERTING INPUT
OUTPUT
HSIC410 heat_sink
NEUTRAL_S2P
+C489 47UF 25V
-S10V_S2P
L404 90UH
GT401 slconlp
GT402 slconlp
GT403 slconlp
GT404 slconlp
HORI YOKE
T405_1 T405_3
T405 8.5x19.5
CH04 100NF 250V MP
C492 100nF 50V
RH21 33K 1/6W
RH20 10K 1/6W
RH17 10 2WMO
RH22 100 1W MO
T403 ER2828
BH26-30336L
Q421 IRF610
+C460 470UF 25V
RH23 330 2W MO
C471 1.50NF 500V
L402 66UH
R433 82 2W MO
D431 RG2AV
SCAP_S2S4
204
C469 68nF 400V P
C470 68nF 400V P
C452 68nF 400V P
C473 770NF 250V MPS
C475 1MF 400V MPP
C453 150NF 400V MPP
C477 390nF 400V P
C479 220NF 400V PP
C481 100NF 400V PP
C483 47NF 630V PP
HS423 heat_sink
HS424 heat_sink
6203-000011 HS425 heat_sink
BH62-30361A HS426 heat_sink
Q423 IRF640
Q424 IRF640
Q425 IRF640
Q426 IRF640
Q427 IRF640
Q428 IRF640
D429 UF5404
C468 1MF 63V MP
C472 10NF 50V
C474 10NF 50V
C476 10NF 50V
C478 10NF 50V
C480 10NF 50V
R498 1K 1/6W
RH43 47K 1/4W
RH01 1K 1/6W
RH44 47K 1/4W
RH03 1K 1/6W
RH45 47K 1/4W
RH05 1K 1/6W
RH46 47K 1/4W
RH07 1K 1/6W
RH47 47K 1/4W
RH09 1K 1/6W
RH48 47K 1/4W
C462 33UF 20V T
C463 33UF 20V T
C464 33UF 20V T
BD401 1.2UH,3.5*5.7MM
BD402 1.2UH,3.5*5.7MM
Q422 MJL16218
BD403 1.2UH,3.5*5.7MM
C467 2.2nF 1.6KV P
C465 2.2nF 1.6KV P
C466 10NF 100V MO
R497 2.2 3W MO
D422 1N4001GP
D423 1N4001GP
D424 1N4001GP
D425 MUR10150E
HS318 heat_sink
IC409 MC14504BCP
5.1V
VF
S3
S4
S5
S0
S1
S2
12V
5V
C484 50V 10NF
UZ-5.1B D426
C485 10NF 50V
+12V
R484 200 1/6W
RH11 270 1/6W
+5VS
R435 3.3K 1/4W MF
D414 1N4148
HFLYBACK_OSD
Q417 MPS3646
D415 1N4148
R434 910 1/4W
C458 18NF 100V P
R432 3.9K 1/4W MF
R431 3.3K 1/4W MF
C456 3.30NF 100V P
C457 1.80NF 100V P
C454 100pF 2KV
C455 1NF 500V
14
15
16
17
55
REV
CONTENT
LOC
DAT
SHEET 2
400

TIMEING SCAN 500HZ(H TOL :10)

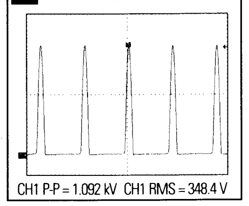
S-CAP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
int	107	97	96	81	78	76	70	69	61	60	60	54	54	54	54	45	45	45	45	45	45	45	45	45	38	38	38	38	36	36	36	
TIME	106	96.7		91 88				68				53																				

H_SYNC	106KHz	91KHz	80KHz	68KHz	53KHz	31KHz	
S0 (Q428)	ON	ON	X	X	ON	ON	1
S1 (Q427)	X	ON	X	X	ON	ON	2
S2 (Q426)	X	X	ON	X	ON	ON	4
S3 (Q425)	X	X	X	ON	ON	ON	8
S4 (Q424)	X	X	X	X	X	ON	16
S5 (Q423)	X	X	X	X	X	ON	

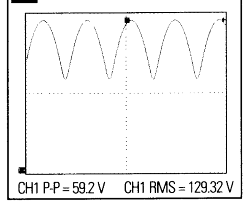
14 11.1 V (Q421 #G)



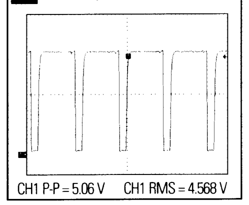
15 1.092 kV (Q422 #C)



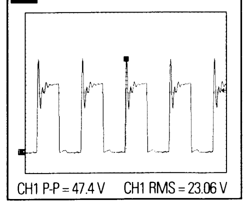
16 59.2 V (T405 #4)



17 5.06 V (Q417 #C)

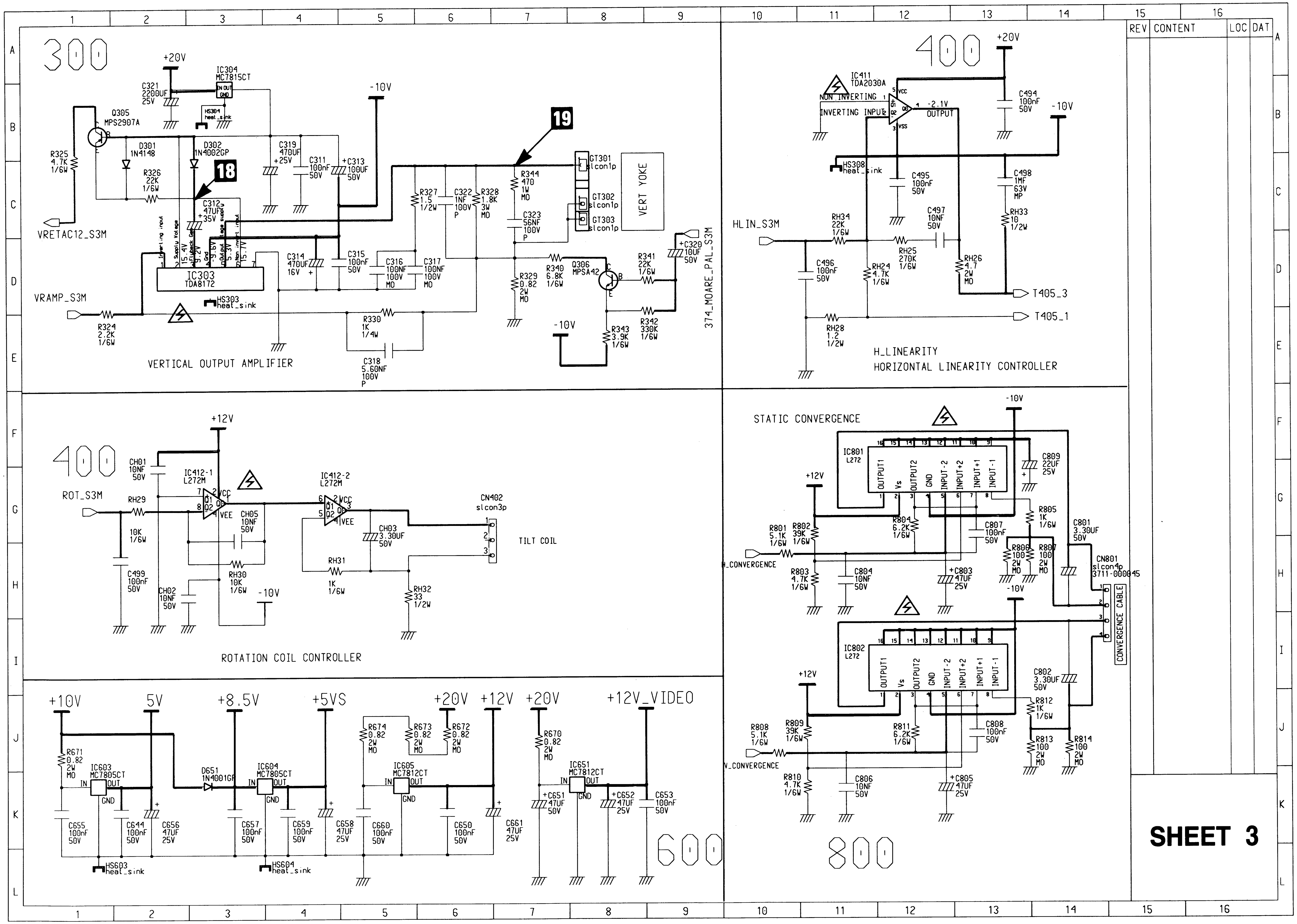


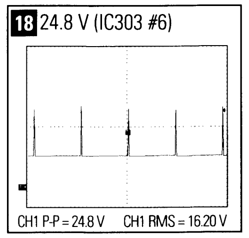
55 47.4 V (Q421 #D)

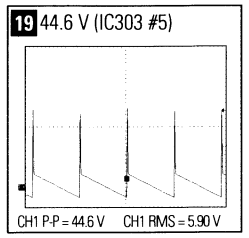


—— : Power Line

—— : Signal Line

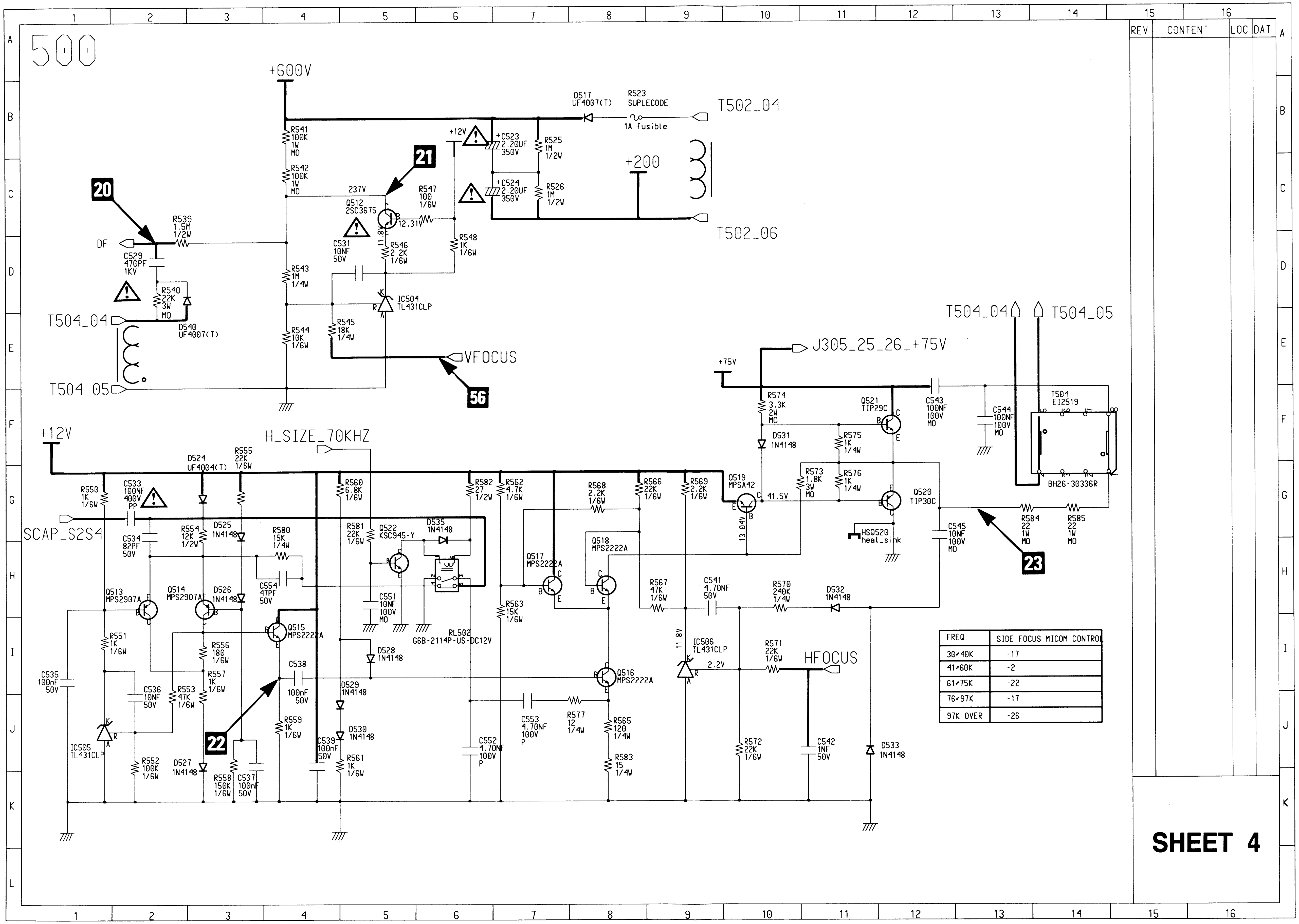

300
VERTICAL OUTPUT AMPLIFIER
+20V
IC304 MC7815CT
C321 2200UF 25V
-10V
Q305 MPS2907A
R325 4.7K 1/6W
D301 1N4148
D302 1N4002GP
R326 22K 1/6W
C319 470UF +25V
C311 100nF 50V
C313 100UF 50V
C312 47UF +35V
VRETAC12_S3M
IC303 TDA8172
HS303 heat_sink
HS304 heat_sink
VRAMP_S3M
R324 2.2K 1/6W
R330 1K 1/4W
C318 5.60NF 100V P
C314 470UF 16V
C315 100nF 50V
C316 100NF 100V MO
C317 100NF 100V MO
R327 1.5 1/2W
C322 1NF 100V P
R328 1.8K 3W MO
R344 470 1W MO
C323 56NF 100V P
R329 0.82 2W MO
R340 6.8K 1/6W
Q306 MPSA42
R341 22K 1/6W
R342 330K 1/6W
R343 3.9K 1/6W
C320 10UF 50V
GT301 slcon1p
GT302 slcon1p
GT303 slcon1p
VERT YOKE
374_MOARE_PAL_S3M
18
19
400
H_LINEARITY
HORIZONTAL LINEARITY CONTROLLER
IC411 TDA2030A
NON INVERTING
INVERTING INPUT
OUTPUT
-2.1V
C494 100nF 50V
HS308 heat_sink
C495 100nF 50V
C498 1MF 63V MP
RH33 10 1/2W
HLIN_S3M
RH34 22K 1/6W
C497 10NF 50V
RH25 270K 1/6W
RH24 4.7K 1/6W
RH26 4.7 2W MO
C496 100nF 50V
RH28 1.2 1/2W
T405_3
T405_1
400
ROTATION COIL CONTROLLER
+12V
CH01 10NF 50V
IC412-1 L272M
IC412-2 L272M
ROT_S3M
RH29
10K 1/6W
CH05 10NF 50V
CH03 3.30UF 50V
CN402 slcon3p
TILT COIL
RH31 1K 1/6W
RH30 10K 1/6W
RH32 33 1/2W
C499 100nF 50V
CH02 10NF 50V
STATIC CONVERGENCE
IC801 L272
OUTPUT1 Vs OUTPUT2 GND INPUT-2 INPUT+2 INPUT+1 INPUT-1
C809 22UF 25V
R801 5.1K 1/6W
R802 39K 1/6W
R804 6.2K 1/6W
C807 100nF 50V
R805 1K 1/6W
C801 3.30UF 50V
R806 100 2W MO
R807 100 2W MO
CN801 slcon4p 3711-000045
CONVERGENCE CABLE
H_CONVERGENCE
R803 4.7K 1/6W
C804 10NF 50V
C803 47UF 25V
IC802 L272
C802 3.30UF 50V
R812 1K 1/6W
R808 5.1K 1/6W
R809 39K 1/6W
R811 6.2K 1/6W
C808 100nF 50V
R813 100 2W MO
R814 100 2W MO
V_CONVERGENCE
R810 4.7K 1/6W
C806 10NF 50V
C805 47UF 25V
800
+10V
5V
+8.5V
+5VS
+20V
+12V
+20V
+12V_VIDEO
R671 0.82 2W MO
IC603 MC7805CT
D651 1N4001GP
IC604 MC7805CT
IC605 MC7812CT
IC651 MC7812CT
R674 0.82 2W MO
R673 0.82 2W MO
R672 0.82 2W MO
R670 0.82 2W MO
C655 100nF 50V
C644 100nF 50V
C656 47UF 25V
C657 100nF 50V
C659 100nF 50V
C658 47UF 25V
C660 100nF 50V
C650 100nF 50V
C661 47UF 25V
C651 47UF 50V
C652 47UF 25V
C653 100nF 50V
HS603 heat_sink
HS604 heat_sink
600
REV CONTENT LOC DAT
SHEET 3


18 24.8 V (IC303 #6)

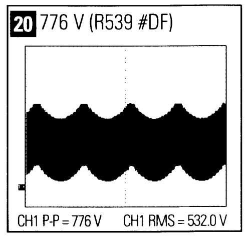

19 44.6 V (IC303 #5)

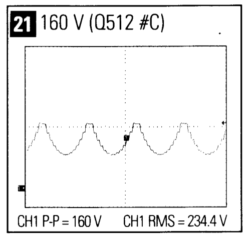
——— : Power Line

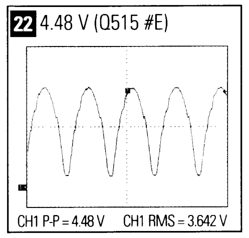
——— : Signal Line

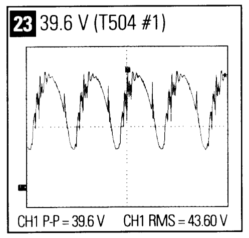

500
+600V
D517 UF4007(T)
R523 SUPLECODE
1A fusible
T502_04
T502_06
+200
R541 100K 1W MO
R542 100K 1W MO
R543 1M 1/4W
R544 10K 1/6W
+12V
+C523 2.20UF 350V
+C524 2.20UF 350V
R525 1M 1/2W
R526 1M 1/2W
237V
Q512 2SC3675
R547 100 1/6W
12.31V
11.8V
R546 2.2K 1/6W
R548 1K 1/6W
C531 10NF 50V
IC504 TL431CLP
R545 18K 1/4W
VFOCUS
DF
R539 1.5M 1/2W
C529 470PF 1KV
R540 22K 3W MO
D540 UF4007(T)
T504_04
T504_05
20
21
56
+12V
H_SIZE_70KHZ
D524 UF4004(T)
R555 22K 1/6W
R550 1K 1/6W
C533 100NF 400V PP
SCAP_S2S4
C534 82PF 50V
R554 12K 1/2W
D525 1N4148
R580 15K 1/4W
C554 47PF 50V
R560 6.8K 1/6W
R581 22K 1/6W
Q522 KSC945-Y
D535 1N4148
C551 10NF 100V MO
RL502 G6B-2114P-US-DC12V
Q513 MPS2907A
Q514 MPS2907AF
D526 1N4148
Q515 MPS2222A
R551 1K 1/6W
R556 180 1/6W
R557 1K 1/6W
R553 47K 1/6W
C536 10NF 50V
C535 100nF 50V
IC505 TL431CLP
R552 100K 1/6W
D527 1N4148
R558 150K 1/6W
C537 100nF 50V
R559 1K 1/6W
C538 100nF 50V
D528 1N4148
D529 1N4148
D530 1N4148
C539 100nF 50V
R561 1K 1/6W
22
R582 27 1/2W
R562 4.7K 1/6W
R563 15K 1/6W
C552 4.70NF 100V P
R568 2.2K 1/6W
Q517 MPS2222A
Q518 MPS2222A
C553 4.70NF 100V P
R577 12 1/4W
Q516 MPS2222A
R565 120 1/4W
R583 15 1/4W
R566 22K 1/6W
R569 2.2K 1/6W
R567 47K 1/6W
C541 4.70NF 50V
R570 240K 1/4W
D532 1N4148
IC506 TL431CLP
2.2V
R571 22K 1/6W
HFOCUS
R572 22K 1/6W
C542 1NF 50V
D533 1N4148
+75V
J305_25_26_+75V
R574 3.3K 2W MO
D531 1N4148
Q519 MPSA42
13.04V
41.5V
Q521 TIP29C
R575 1K 1/4W
R573 1.8K 3W MO
R576 1K 1/4W
Q520 TIP30C
HS0520 heat_sink
C543 100NF 100V MO
C544 100NF 100V MO
C545 10NF 100V MO
R584 22 1W MO
R585 22 1W MO
T504 EI2519
BH26-30336R
23
REV
CONTENT
LOC
DAT
SHEET 4

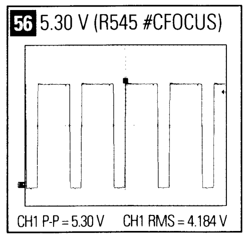
FREQ	SIDE FOCUS MICOM CONTROL
30~40K	-17
41~60K	-2
61~75K	-22
76~97K	-17
97K OVER	-26


20 776 V (R539 #DF)


21 160 V (Q512 #C)

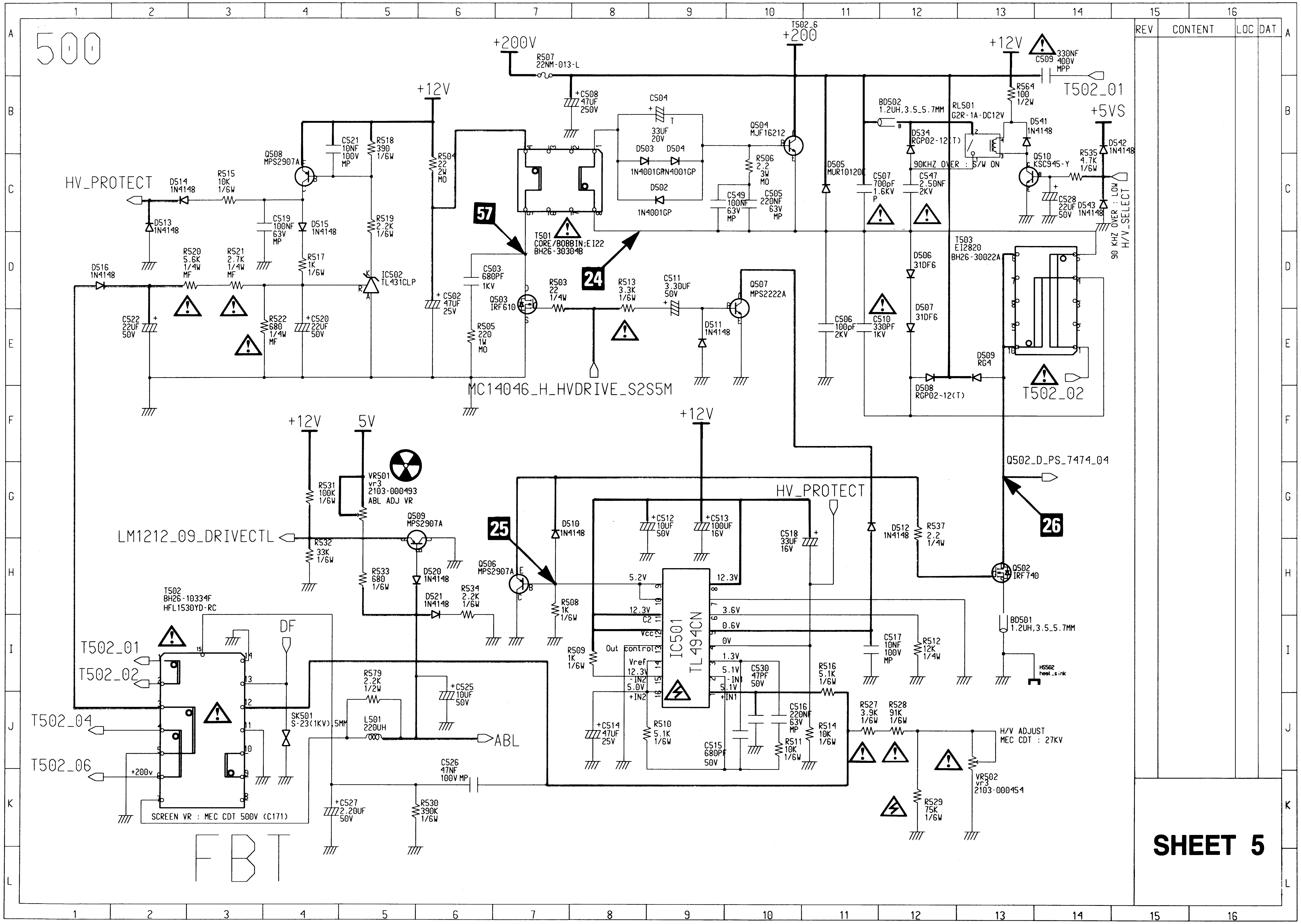

22 4.48 V (Q515 #E)


23 39.6 V (T504 #1)

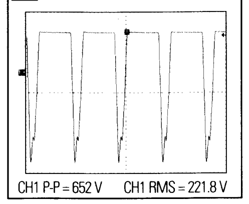

56 5.30 V (R545 #CFOCUS)

———— : Power Line

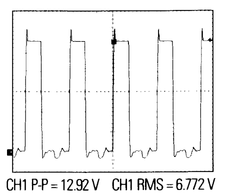
———— : Signal Line


500
+200V
R507 22NM-013-L
+C508 47UF 250V
C504
33UF 20V
D503 D504
1N4001GP 1N4001GP
D502
1N4001GP
T502_6 +200
Q504 MJF16212
R506 2.2 3W MO
C549 100NF 63V MP
C505 220NF 63V MP
+12V
C509 330NF 400V MPP
T502_01
R564 100 1/2W
BD502 1.2UH,3.5_5.7MM
RL501 G2R-1A-DC12V
D541 1N4148
+5VS
D534 RGP02-12(T)
90KHZ OVER : S/W ON
Q510 KSC945-Y
R535 4.7K 1/6W
D542 1N4148
D505 MUR10120E
C507 700pF 1.6KV P
C547 2.50NF 2KV
C528 22UF 50V
D543 1N4148
90 KHZ OVER : LOW
H/V_SELECT
+12V
Q508 MPS2907A
C521 10NF 100V MP
R518 390 1/6W
R504 22 2W MO
HV_PROTECT
D514 1N4148
R515 10K 1/6W
D513 1N4148
C519 100NF 63V MP
D515 1N4148
R519 2.2K 1/6W
R517 1K 1/6W
IC502 TL431CLP
57
T501 CORE/BOBBIN;EI22 BH26-30304B
24
D516 1N4148
R520 5.6K 1/4W MF
R521 2.7K 1/4W MF
C522 22UF 50V
R522 680 1/4W MF
+C520 22UF 50V
C503 680PF 1KV
+ C502 47UF 25V
Q503 IRF610
R505 220 1W MO
R503 22 1/4W
R513 3.3K 1/6W
C511 3.30UF 50V
Q507 MPS2222A
D511 1N4148
C506 100pF 2KV
C510 330PF 1KV
D506 31DF6
D507 31DF6
T503 EI2820 BH26-30022A
D509 RG4
D508 RGP02-12(T)
T502_02
MC14046_H_HVDRIVE_S2S5M
+12V
5V
VR501 vr3 2103-000493 ABL ADJ VR
R531 100K 1/6W
Q509 MPS2907A
LM1212_09_DRIVECTL
R532 33K 1/6W
R533 680 1/6W
D520 1N4148
D521 1N4148
R534 2.2K 1/6W
25
Q506 MPS2907A
D510 1N4148
R508 1K 1/6W
+12V
+C512 10UF 50V
+C513 100UF 16V
HV_PROTECT
C518 33UF 16V
IC501 TL494CN
5.2V 12.3V 3.6V 0.6V 0V 1.3V 5.1V 5.1V 12.3V 5.0V
C2 Vcc Out control Vref -IN2 +IN2 -IN1 +IN1
R509 1K 1/6W
C530 47PF 50V
C516 220NF 63V MP
R516 5.1K 1/6W
R514 10K 1/6W
R511 10K 1/6W
C515 680PF 50V
+C514 47UF 25V
R510 5.1K 1/6W
D512 1N4148
R537 2.2 1/4W
Q502 IRF740
Q502_D_PS_7474_04
26
C517 10NF 100V MP
R512 12K 1/4W
BD501 1.2UH,3.5_5.7MM
HS502 heat_sink
R527 3.9K 1/6W
R528 91K 1/6W
H/V ADJUST MEC CDT : 27KV
VR502 vr3 2103-000454
R529 75K 1/6W
T502 BH26-10334F HFL1530YD-RC
T502_01
T502_02
T502_04
T502_06
+200v
DF
SK501 S-23(1KV),5MM
R579 2.2K 1/2W
L501 220UH
+C525 10UF 50V
ABL
C526 47NF 100V MP
+C527 2.20UF 50V
R530 390K 1/6W
SCREEN VR : MEC CDT 500V (C171)
FBT
REV CONTENT LOC DAT
SHEET 5

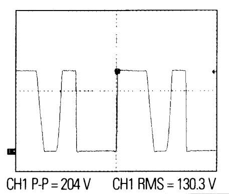
24 652 V (Q504 #E)



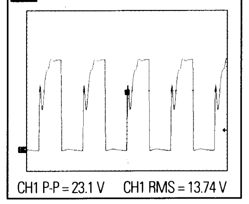
25 12.92 V (IC501 #9, 10)



26 204 V (Q502 #D)

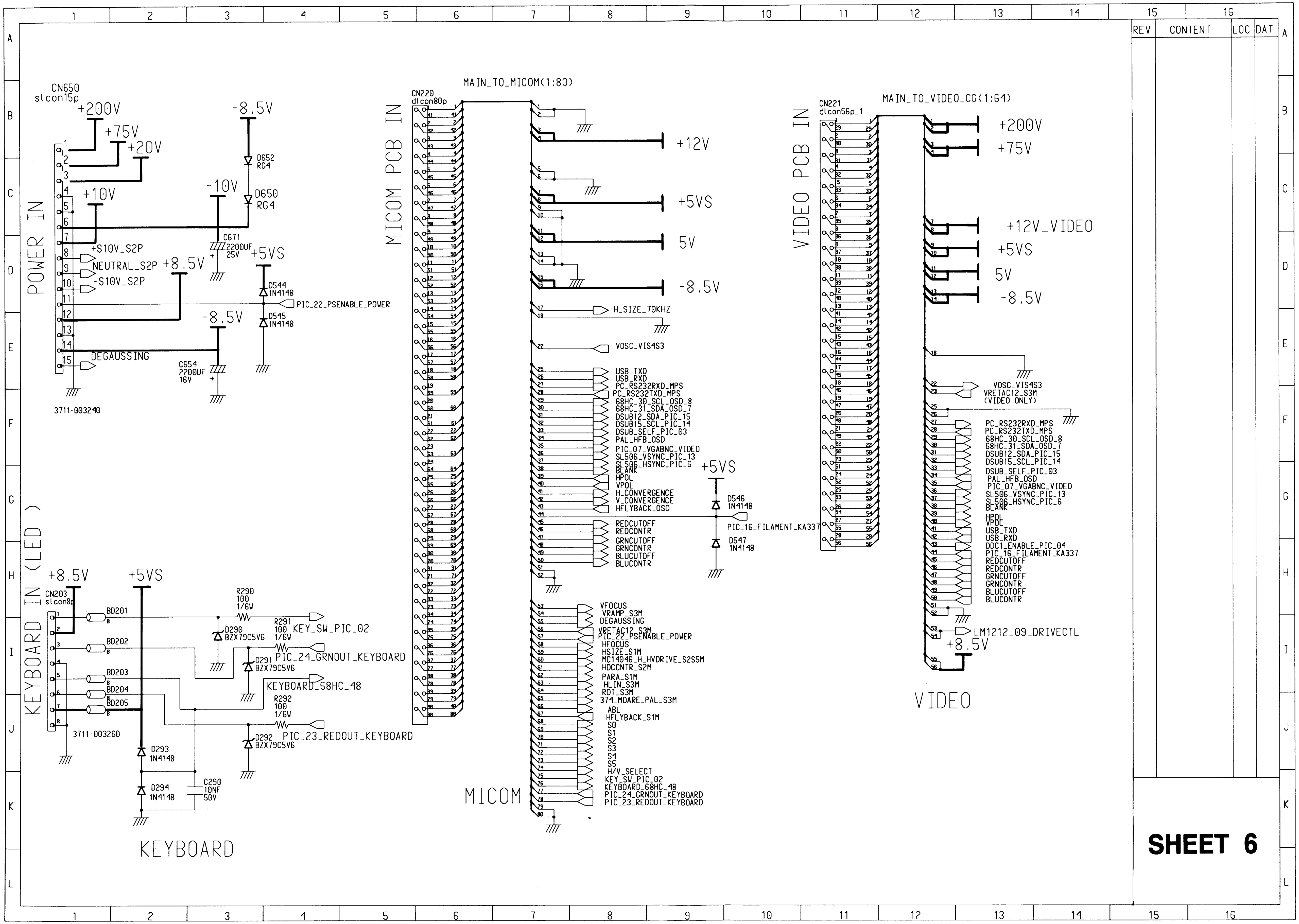


57 23.1 V (Q503 #D)



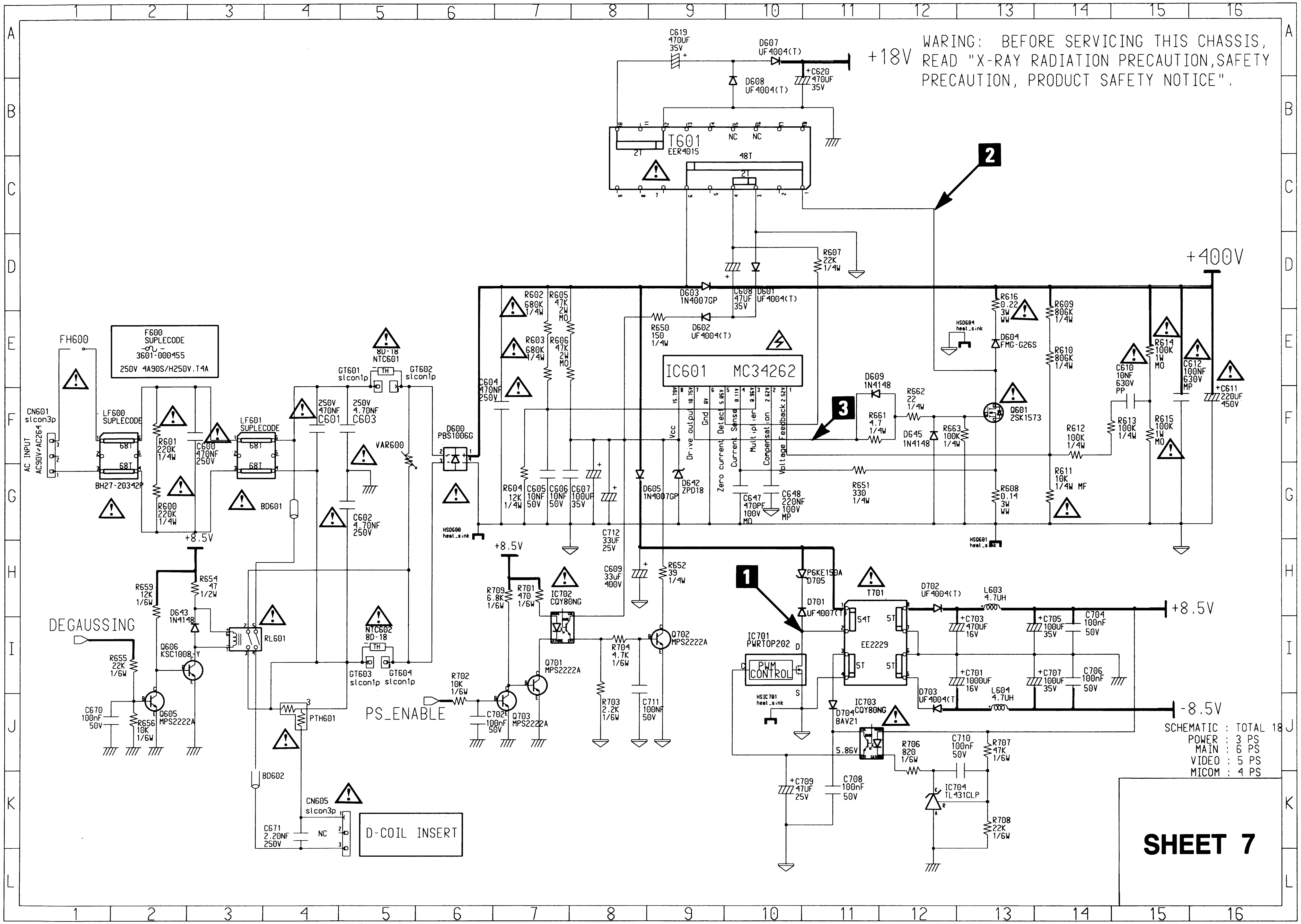
——— : Power Line

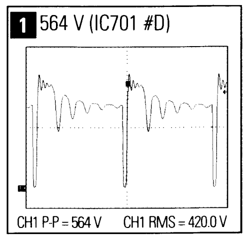
······ : Signal Line

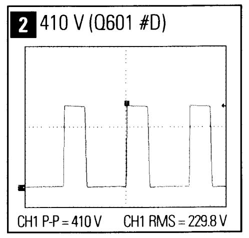

POWER IN
CN650
slcon15p
+200V
+75V
+20V
+10V
-10V
-8.5V
D652
RG4
D650
RG4
C671
2200UF
25V
+5VS
+S10V_S2P
NEUTRAL_S2P
-S10V_S2P
+8.5V
D544
1N4148
PIC_22_PSENABLE_POWER
D545
1N4148
-8.5V
DEGAUSSING
C654
2200UF
16V
3711-003240
MICOM PCB IN
CN220
dlcon80p
MAIN_TO_MICOM(1:80)
+12V
+5VS
5V
-8.5V
H_SIZE_70KHZ
VOSC_VIS4S3
USB_TXD
USB_RXD
PC_RS232RXD_MPS
PC_RS232TXD_MPS
68HC_30_SCL_OSD_8
68HC_31_SDA_OSD_7
DSUB12_SDA_PIC_15
DSUB15_SCL_PIC_14
DSUB_SELF_PIC_03
PAL_HFB_OSD
PIC_07_VGABNC_VIDEO
SL506_VSYNC_PIC_13
SL506_HSYNC_PIC_6
BLANK
HPOL
VPOL
H_CONVERGENCE
V_CONVERGENCE
HFLYBACK_OSD
+5VS
D546
1N4148
PIC_16_FILAMENT_KA337
D547
1N4148
REDCUTOFF
REDCONTR
GRNCUTOFF
GRNCONTR
BLUCUTOFF
BLUCONTR
VFOCUS
VRAMP_S3M
DEGAUSSING
VRETAC12_S3M
PIC_22_PSENABLE_POWER
HFOCUS
HSIZE_S1M
MC14046_H_HVDRIVE_S2S5M
HDCCNTR_S2M
PARA_S1M
HLIN_S3M
ROT_S3M
374_MOARE_PAL_S3M
ABL
HFLYBACK_S1M
S0
S1
S2
S3
S4
S5
H/V_SELECT
KEY_SW_PIC_02
KEYBOARD_68HC_48
PIC_24_GRNOUT_KEYBOARD
PIC_23_REDOUT_KEYBOARD
MICOM
VIDEO PCB IN
CN221
dlcon56p_1
MAIN_TO_VIDEO_CG(1:64)
+200V
+75V
+12V_VIDEO
+5VS
5V
-8.5V
VOSC_VIS4S3
VRETAC12_S3M
(VIDEO ONLY)
PC_RS232RXD_MPS
PC_RS232TXD_MPS
68HC_30_SCL_OSD_8
68HC_31_SDA_OSD_7
DSUB12_SDA_PIC_15
DSUB15_SCL_PIC_14
DSUB_SELF_PIC_03
PAL_HFB_OSD
PIC_07_VGABNC_VIDEO
SL506_VSYNC_PIC_13
SL506_HSYNC_PIC_6
BLANK
HPOL
VPOL
USB_TXD
USB_RXD
DDC1_ENABLE_PIC_04
PIC_16_FILAMENT_KA337
REDCUTOFF
REDCONTR
GRNCUTOFF
GRNCONTR
BLUCUTOFF
BLUCONTR
LM1212_09_DRIVECTL
+8.5V
VIDEO
KEYBOARD IN (LED)
+8.5V
+5VS
CN203
slcon8p
BD201
BD202
BD203
BD204
BD205
R290
100
1/6W
R291
100
1/6W
KEY_SW_PIC_02
D290
BZX79C5V6
PIC_24_GRNOUT_KEYBOARD
D291
BZX79C5V6
KEYBOARD_68HC_48
R292
100
1/6W
PIC_23_REDOUT_KEYBOARD
D292
BZX79C5V6
3711-003260
D293
1N4148
D294
1N4148
C290
10NF
50V
KEYBOARD
REV
CONTENT
LOC
DAT
SHEET 6

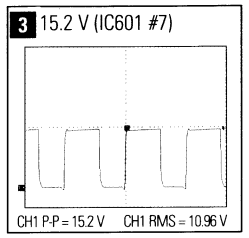
: Power Line

11-5 Power Schematic Diagrams


WARING: BEFORE SERVICING THIS CHASSIS, READ "X-RAY RADIATION PRECAUTION,SAFETY PRECAUTION, PRODUCT SAFETY NOTICE".
+18V
+400V
+8.5V
-8.5V
T601 EER4015
IC601 MC34262
Vcc
Drive output
Gnd
Zero current Detect
Current Sense
Multiplier
Compensation
Voltage Feedback
Q601 2SK1573
D604 FMG-G26S
IC701 PWRTOP202
PWM CONTROL
T701 EE2229
IC702 CQY80NG
IC703 CQY80NG
IC704 TL431CLP
D600 PBS1006G
F600 SUPLECODE 3601-000455 250V 4A90S/H250V.T4A
FH600
CN601 slcon3p
AC INPUT AC90V~AC264
LF600 SUPLECODE
LF601 SUPLECODE
VAR600
NTC601 8D-18
NTC602 8D-18
RL601
PTH601
BD601
BD602
DEGAUSSING
PS_ENABLE
D-COIL INSERT
CN605 slcon3p
Q605 MPS2222A
Q606 KSC1008-Y
Q701 MPS2222A
Q702 MPS2222A
Q703 MPS2222A
SCHEMATIC : TOTAL 18
POWER : 3 PS
MAIN : 6 PS
VIDEO : 5 PS
MICOM : 4 PS
SHEET 7
1
2
3

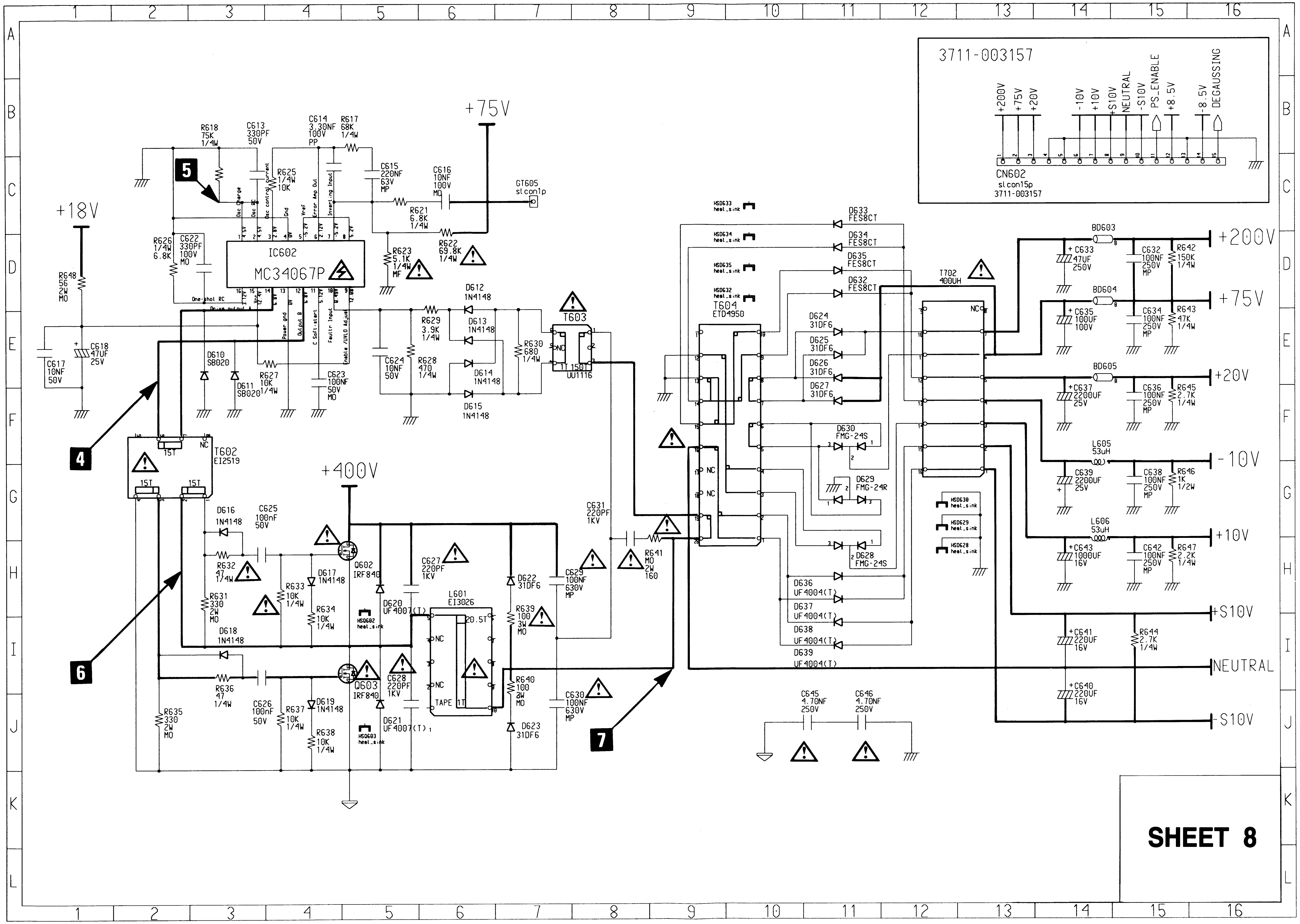

1 564 V (IC701 #D)


2 410 V (Q601 #D)


3 15.2 V (IC601 #7)

—— : Power Line

—— : Signal Line

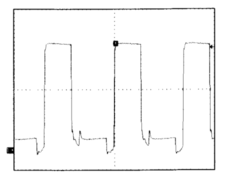

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
K
L
3711-003157
+200V
+75V
+20V
-10V
+10V
+S10V
NEUTRAL
-S10V
PS_ENABLE
+8.5V
-8.5V
DEGAUSSING
CN602
slcon15p
3711-003157
+75V
+18V
R618 75K 1/4W
C613 330PF 50V
C614 3.30NF 100V PP
R617 68K 1/4W
R625 1/4W 10K
C615 220NF 63V MP
C616 10NF 100V MO
GT605 slcon1p
R621 6.8K 1/4W
R622 69.8K 1/4W
R623 5.1K 1/4W MF
IC602
MC34067P
R626 1/4W 6.8K
C622 330PF 100V MO
R648 56 2W MO
C618 47UF 25V
C617 10NF 50V
D610 SB020
D611 SB020
R627 10K 1/4W
C623 100NF 50V MO
C624 10NF 50V
R628 470 1/4W
R629 3.9K 1/4W
D612 1N4148
D613 1N4148
D614 1N4148
D615 1N4148
R630 680 1/4W
T603
UU1116
T602
EI2519
15T
NC
+400V
D616 1N4148
C625 100nF 50V
R632 47 1/4W
R631 330 2W MO
D618 1N4148
R633 10K 1/4W
D617 1N4148
R634 10K 1/4W
Q602 IRF840
HS0602 heat_sink
D620 UF4007(T)
C627 220PF 1KV
L601 EI3026
20.5T
NC
TAPE
D622 31DF6
R639 100 3W MO
C629 100NF 630V MP
C631 220PF 1KV
R641 MO 2W 160
R636 47 1/4W
C626 100nF 50V
R637 10K 1/4W
D619 1N4148
R638 10K 1/4W
Q603 IRF840
C628 220PF 1KV
D621 UF4007(T)
HS0603 heat_sink
R640 100 3W MO
D623 31DF6
C630 100NF 630V MP
R635 330 2W MO
HS0633 heat_sink
HS0634 heat_sink
HS0635 heat_sink
HS0632 heat_sink
D633 FES8CT
D634 FES8CT
D635 FES8CT
D632 FES8CT
T604 ETD4950
D624 31DF6
D625 31DF6
D626 31DF6
D627 31DF6
D630 FMG-24S
D629 FMG-24R
D628 FMG-24S
D636 UF4004(T)
D637 UF4004(T)
D638 UF4004(T)
D639 UF4004(T)
T702 400UH
HS0630 heat_sink
HS0629 heat_sink
HS0628 heat_sink
BD603
C633 47UF 250V
C632 100NF 250V MP
R642 150K 1/4W
+200V
BD604
C635 100UF 100V
C634 100NF 250V MP
R643 47K 1/4W
+75V
BD605
C637 2200UF 25V
C636 100NF 250V MP
R645 2.7K 1/4W
+20V
L605 53uH
C639 2200UF 25V
C638 100NF 250V MP
R646 1K 1/2W
-10V
L606 53uH
C643 1000UF 16V
C642 100NF 250V MP
R647 2.2K 1/4W
+10V
+S10V
C641 220UF 16V
R644 2.7K 1/4W
NEUTRAL
C640 220UF 16V
-S10V
C645 4.70NF 250V
C646 4.70NF 250V
4
5
6
7

SHEET 8

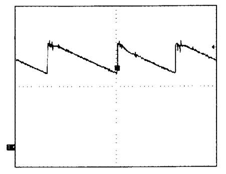
———— : Power Line

- - - - - - : Signal Line

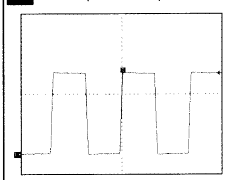
4 11.16 V (IC602 #12)


CH1 P-P = 11.16 V CH1 RMS = 6.712 V

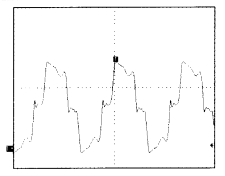
5 1.68 V (IC602 #1, 2)


CH1 P-P = 1.68 V CH1 RMS = 4.414 V

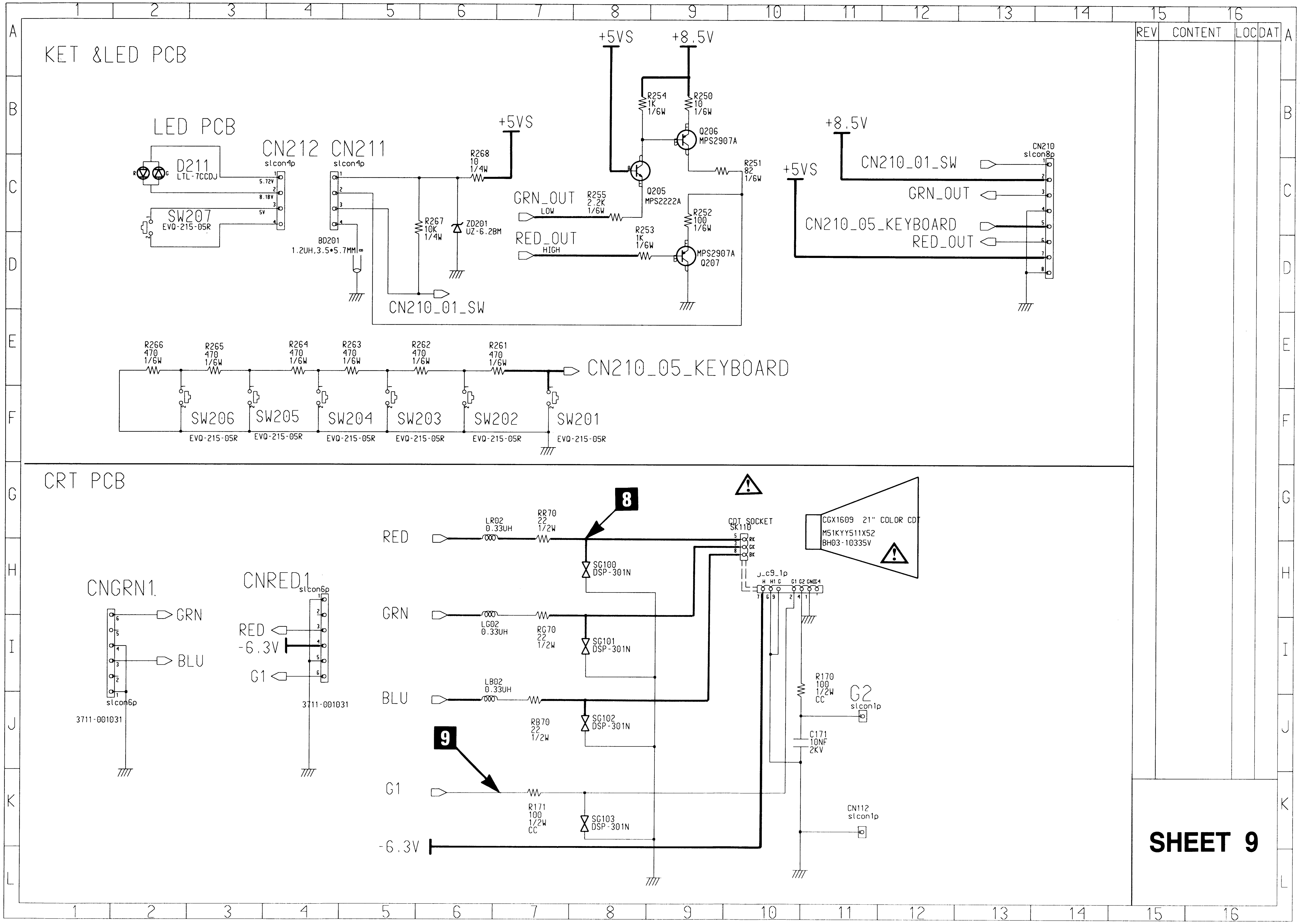
6 412 V (Q603 #D)


CH1 P-P = 412 V CH1 RMS = 287.0 V

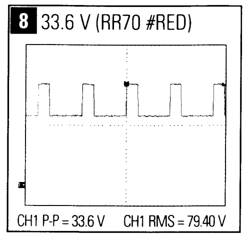
7 456 V (T604 #20)


CH1 P-P = 456 V CH1 RMS = 256.8 V

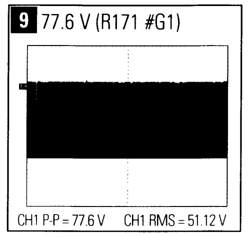
11-6 CRT Schematic Diagram


KET &LED PCB
LED PCB
D211
LTL-7CCDJ
R
G
SW207
EVQ-215-05R
CN212
slcon4p
5.72V
8.18V
5V
CN211
slcon4p
BD201
1.2UH,3.5*5.7MM
R268
10
1/4W
+5VS
R267
10K
1/4W
ZD201
UZ-6.2BM
CN210_01_SW
+5VS
+8.5V
R254
1K
1/6W
R250
10
1/6W
Q206
MPS2907A
Q205
MPS2222A
R251
82
1/6W
GRN_OUT
LOW
R255
2.2K
1/6W
RED_OUT
HIGH
R253
1K
1/6W
R252
100
1/6W
MPS2907A
Q207
+8.5V
+5VS
CN210_01_SW
GRN_OUT
CN210_05_KEYBOARD
RED_OUT
CN210
slcon8p
R266
470
1/6W
R265
470
1/6W
R264
470
1/6W
R263
470
1/6W
R262
470
1/6W
R261
470
1/6W
CN210_05_KEYBOARD
SW206
EVQ-215-05R
SW205
EVQ-215-05R
SW204
EVQ-215-05R
SW203
EVQ-215-05R
SW202
EVQ-215-05R
SW201
EVQ-215-05R
CRT PCB
CNGRN1
GRN
BLU
slcon6p
3711-001031
CNRED1
slcon6p
RED
-6.3V
G1
3711-001031
RED
LR02
0.33UH
RR70
22
1/2W
SG100
DSP-301N
GRN
LG02
0.33UH
RG70
22
1/2W
SG101
DSP-301N
BLU
LB02
0.33UH
RB70
22
1/2W
SG102
DSP-301N
G1
R171
100
1/2W
CC
SG103
DSP-301N
-6.3V
8
9
CDT SOCKET
SK110
RK
GK
BK
J_c9_1p
H H1 G G1 G2 GNDG4
CGX1609 21" COLOR CDT
M51KYY511X52
BH03-10335V
R170
100
1/2W
CC
G2
slcon1p
C171
10NF
2KV
CN112
slcon1p
REV
CONTENT
LOC
DAT
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J K L

SHEET 9


8 33.6 V (RR70 #RED)

CH1 P-P=33.6V CH1 RMS=79.40V

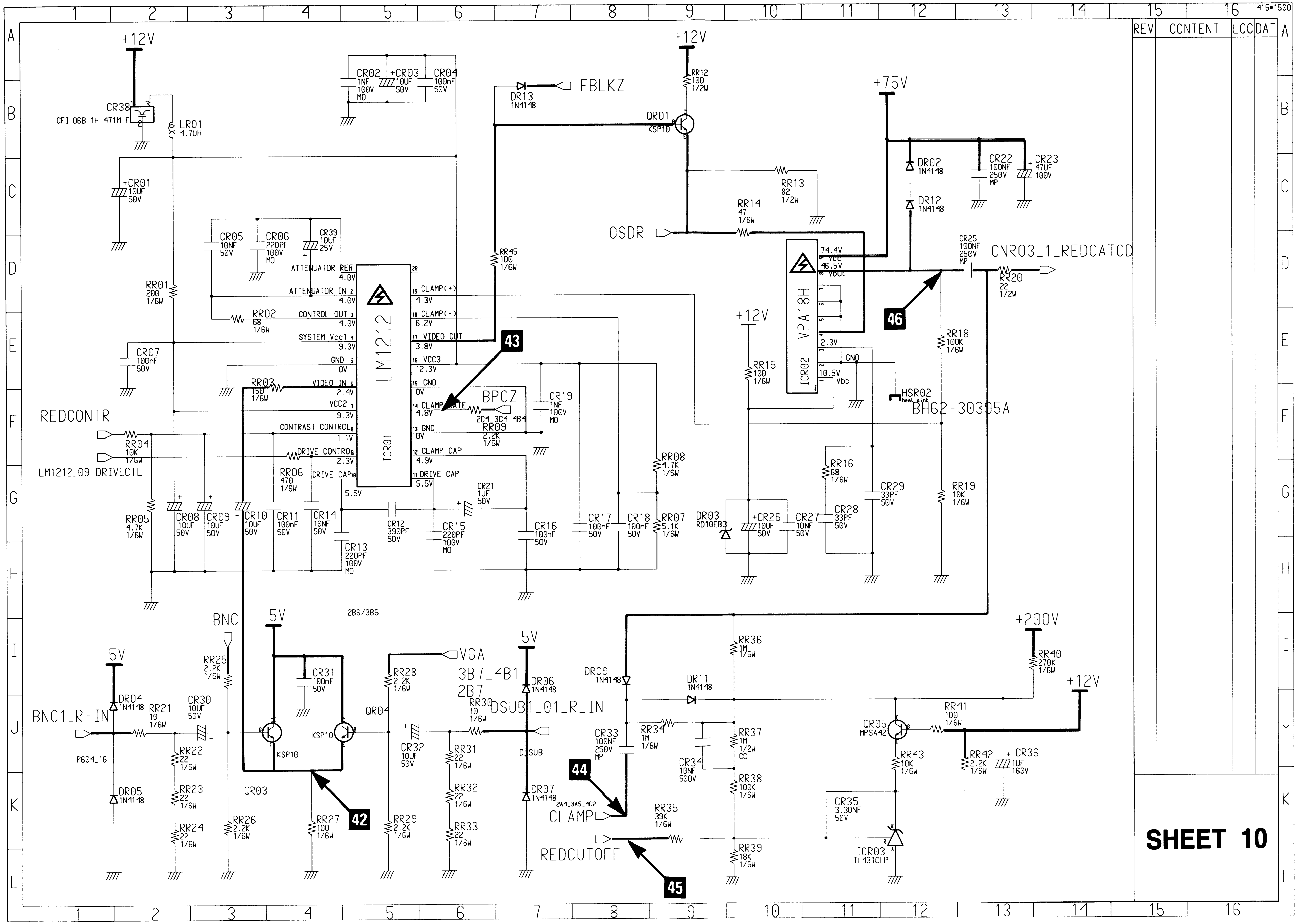

9 77.6 V (R171 #G1)

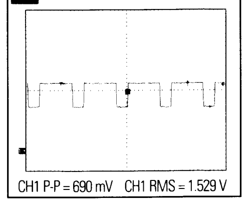
CH1 P-P=77.6V CH1 RMS=51.12V

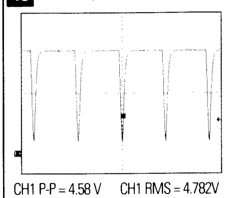
—— : Power Line

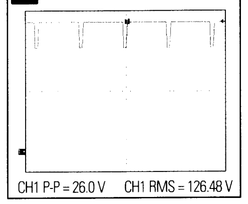
—— : Signal Line

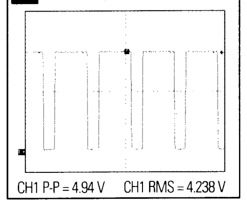
11-7 Video Schematic Diagrams

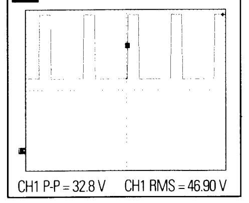

+12V
CR38
CFI 06B 1H 471M F
LR01
4.7UH
CR01
10UF
50V
CR02
1NF
100V
MO
CR03
10UF
50V
CR04
100nF
50V
DR13
1N4148
FBLKZ
RR12
100
1/2W
QR01
KSP10
+75V
RR13
82
1/2W
RR14
47
1/6W
OSDR
DR02
1N4148
DR12
1N4148
CR22
100NF
250V
MP
CR23
47UF
100V
CR25
100NF
250V
MP
CNR03_1_REDCATOD
RR20
22
1/2W
RR45
100
1/6W
CR05
10NF
50V
CR06
220PF
100V
MO
CR39
10UF
25V
RR01
200
1/6W
RR02
68
1/6W
CR07
100nF
50V
RR03
150
1/6W
ATTENUATOR REF
ATTENUATOR IN
CONTROL OUT
SYSTEM Vcc1
GND
VIDEO IN
VCC2
CONTRAST CONTROL
DRIVE CONTROL
DRIVE CAP
LM1212
ICR01
CLAMP(+)
CLAMP(-)
VIDEO OUT
VCC3
GND
CLAMP GATE
GND
CLAMP CAP
DRIVE CAP
4.0V
4.0V
4.0V
9.3V
0V
2.4V
9.3V
1.1V
2.3V
5.5V
4.3V
6.2V
3.8V
12.3V
0V
4.8V
0V
4.9V
5.5V
43
BPCZ
2C4_3C4_4B4
RR09
2.2K
1/6W
CR19
1NF
100V
MO
VPA18H
ICR02
74.4V
VCC
46.5V
Vout
2.3V
GND
10.5V
Vbb
HSR02
heat_sink
BH62-30395A
46
+12V
RR15
100
1/6W
RR18
100K
1/6W
REDCONTR
RR04
10K
1/6W
LM1212_09_DRIVECTL
RR06
470
1/6W
RR05
4.7K
1/6W
CR08
10UF
50V
CR09
10UF
50V
CR10
10UF
50V
CR11
100nF
50V
CR14
10NF
50V
CR13
220PF
100V
MO
CR12
390PF
50V
CR15
220PF
100V
MO
CR21
1UF
50V
CR16
100nF
50V
CR17
100nF
50V
CR18
100nF
50V
RR08
4.7K
1/6W
RR07
5.1K
1/6W
DR03
RD10EB3
CR26
10UF
50V
CR27
10NF
50V
RR16
68
1/6W
CR28
33PF
50V
CR29
33PF
50V
RR19
10K
1/6W
2B6/3B6
BNC
5V
RR25
2.2K
1/6W
CR31
100nF
50V
QR04
KSP10
KSP10
QR03
VGA
3B7_4B1
2B7
RR28
2.2K
1/6W
5V
DR06
1N4148
RR30
10
1/6W
DSUB1_01_R_IN
DSUB
DR07
1N4148
5V
DR04
1N4148
BNC1_R-IN
RR21
10
1/6W
CR30
10UF
50V
P604_16
RR22
22
1/6W
RR23
22
1/6W
RR24
22
1/6W
DR05
1N4148
RR26
2.2K
1/6W
RR27
100
1/6W
42
CR32
10UF
50V
RR29
2.2K
1/6W
RR31
22
1/6W
RR32
22
1/6W
RR33
22
1/6W
DR09
1N4148
RR36
1M
1/6W
DR11
1N4148
CR33
100NF
250V
MP
RR34
1M
1/6W
CR34
10NF
500V
RR37
1M
1/2W
CC
RR38
100K
1/6W
44
2A4_3A5_4C2
CLAMP
RR35
39K
1/6W
REDCUTOFF
45
RR39
18K
1/6W
CR35
3.30NF
50V
ICR03
TL431CLP
+200V
RR40
270K
1/6W
+12V
QR05
MPSA42
RR41
100
1/6W
RR43
10K
1/6W
RR42
2.2K
1/6W
CR36
1UF
160V
REV
CONTENT
LOC
DAT
SHEET 10
415-1500
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
K
L


42 690 mV(QR04, QG04, QB04 #E)


43 4.58 V (ICR01 #14)

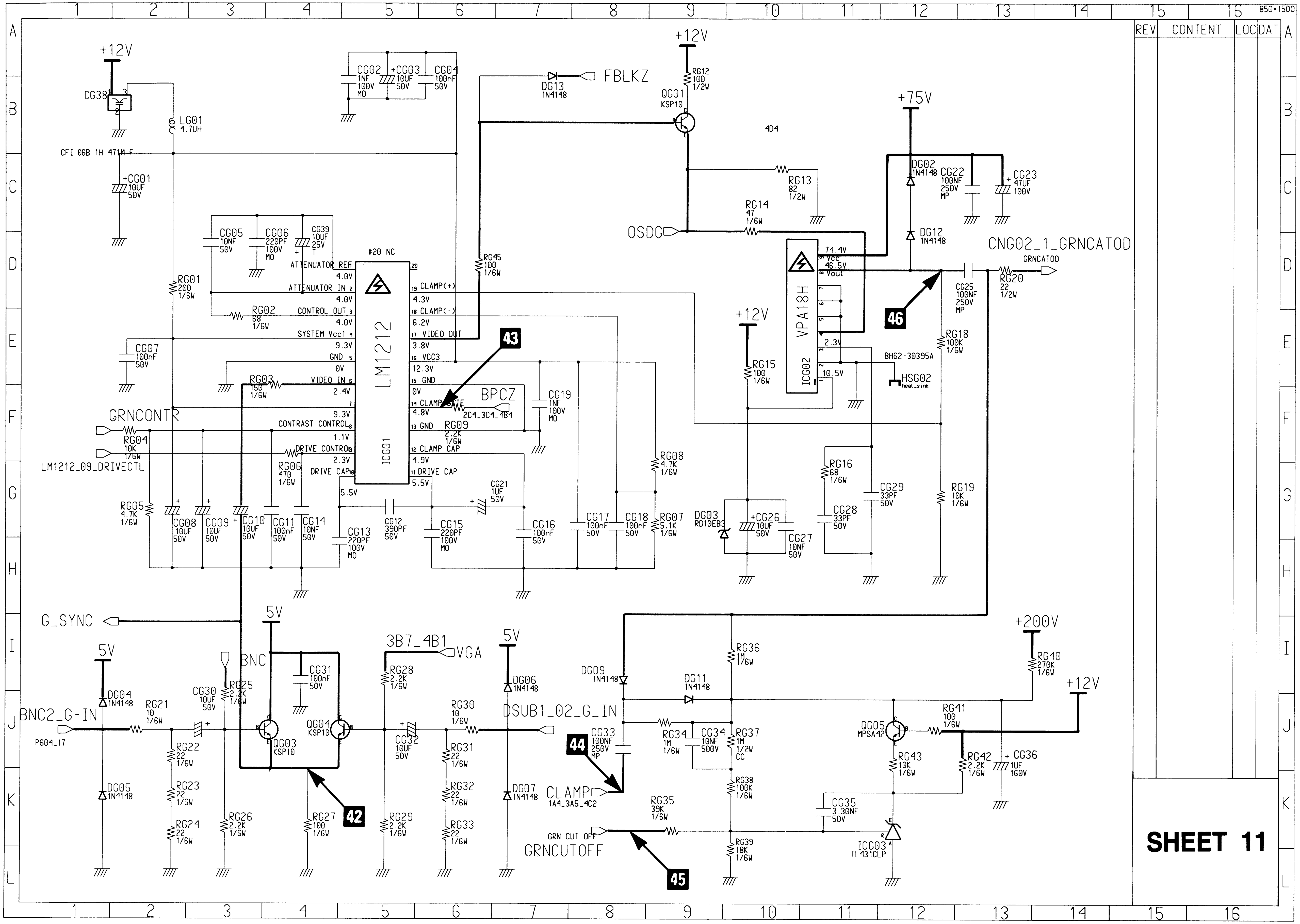

44 26.0 V (CR33 #CLAMP)


45 4.94 V (RR35 REDCUTOFF)

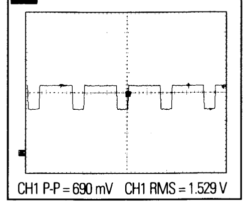

46 32.8 V (ICR02 #8)

——— : Power Line

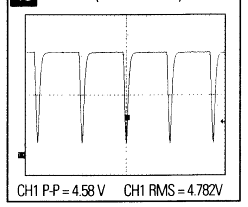
——— : Signal Line


850•1500
REV CONTENT LOC DAT
SHEET 11
+12V
CG38
LG01 4.7UH
CFI 06B 1H 471M F
+CG01 10UF 50V
RG01 200 1/6W
CG02 1NF 100V MO
+CG03 10UF 50V
CG04 100nF 50V
CG05 10NF 50V
CG06 220PF 100V MO
CG39 10UF 25V
#20 NC
LM1212
ICG01
ATTENUATOR REF
ATTENUATOR IN 2
CONTROL OUT 3
SYSTEM Vcc1 4
GND 5
VIDEO IN 6
CONTRAST CONTROL 8
DRIVE CONTROL 9
DRIVE CAP 10
CLAMP(+) 19
CLAMP(-) 18
VIDEO OUT 17
VCC3 16
GND 15
CLAMP GATE 14
GND 13
CLAMP CAP 12
DRIVE CAP 11
RG02 68 1/6W
CG07 100nF 50V
RG03 150 1/6W
GRNCONTR
RG04 10K 1/6W
LM1212_09_DRIVECTL
RG06 470 1/6W
RG05 4.7K 1/6W
CG08 10UF 50V
CG09 10UF 50V
CG10 10UF 50V
CG11 100nF 50V
CG14 10NF 50V
CG13 220PF 100V MO
CG12 390PF 50V
CG15 220PF 100V MO
CG21 1UF 50V
CG16 100nF 50V
CG17 100nF 50V
CG18 100nF 50V
RG07 5.1K 1/6W
RG08 4.7K 1/6W
CG19 1NF 100V MO
BPCZ
2C4_3C4_4B4
RG09 2.2K 1/6W
RG45 100 1/6W
FBLKZ
DG13 1N4148
QG01 KSP10
RG12 100 1/2W
RG13 82 1/2W
RG14 47 1/6W
OSDG
404
+75V
DG02 1N4148
CG22 100NF 250V MP
CG23 47UF 100V
DG12 1N4148
VPA18H
ICG02
74.4V
46.5V
Vcc
Vout
2.3V
10.5V
CNG02_1_GRNCATOD
GRNCATOD
CG25 100NF 250V MP
RG20 22 1/2W
RG18 100K 1/6W
BH62-30395A
HSG02
heat_sink
RG15 100 1/6W
RG16 68 1/6W
CG29 33PF 50V
CG28 33PF 50V
RG19 10K 1/6W
DG03 RD10EB3
+CG26 10UF 50V
CG27 10NF 50V
G_SYNC
5V
BNC
BNC2_G-IN
P604_17
DG04 1N4148
DG05 1N4148
RG21 10 1/6W
CG30 10UF 50V
RG25 2.2K 1/6W
RG22 22 1/6W
RG23 22 1/6W
RG24 22 1/6W
RG26 2.2K 1/6W
QG03 KSP10
QG04 KSP10
CG31 100nF 50V
RG27 100 1/6W
3B7_4B1
VGA
RG28 2.2K 1/6W
RG29 2.2K 1/6W
CG32 10UF 50V
RG30 10 1/6W
RG31 22 1/6W
RG32 22 1/6W
RG33 22 1/6W
DG06 1N4148
DG07 1N4148
DSUB1_02_G_IN
DG09 1N4148
CG33 100NF 250V MP
CLAMP
1A4_3A5_4C2
DG11 1N4148
RG34 1M 1/6W
CG34 10NF 500V
RG36 1M 1/6W
RG37 1M 1/2W CC
RG38 100K 1/6W
RG39 18K 1/6W
RG35 39K 1/6W
GRN CUT OFF
GRNCUTOFF
CG35 3.30NF 50V
ICG03 TL431CLP
+200V
RG40 270K 1/6W
QG05 MPSA42
RG41 100 1/6W
RG43 10K 1/6W
RG42 2.2K 1/6W
CG36 1UF 160V
42
43
44
45
46

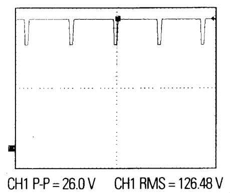
42 690 mV(QR04, QG04, QB04 #E)



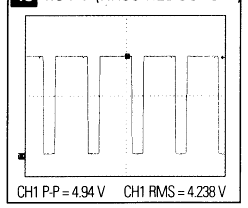
43 4.58 V (ICR01 #14)



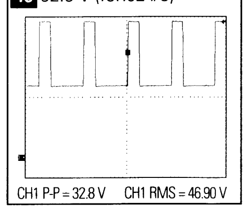
44 26.0 V (CR33 #CLAMP)



45 4.94 V (RR35 REDCUTOFF)

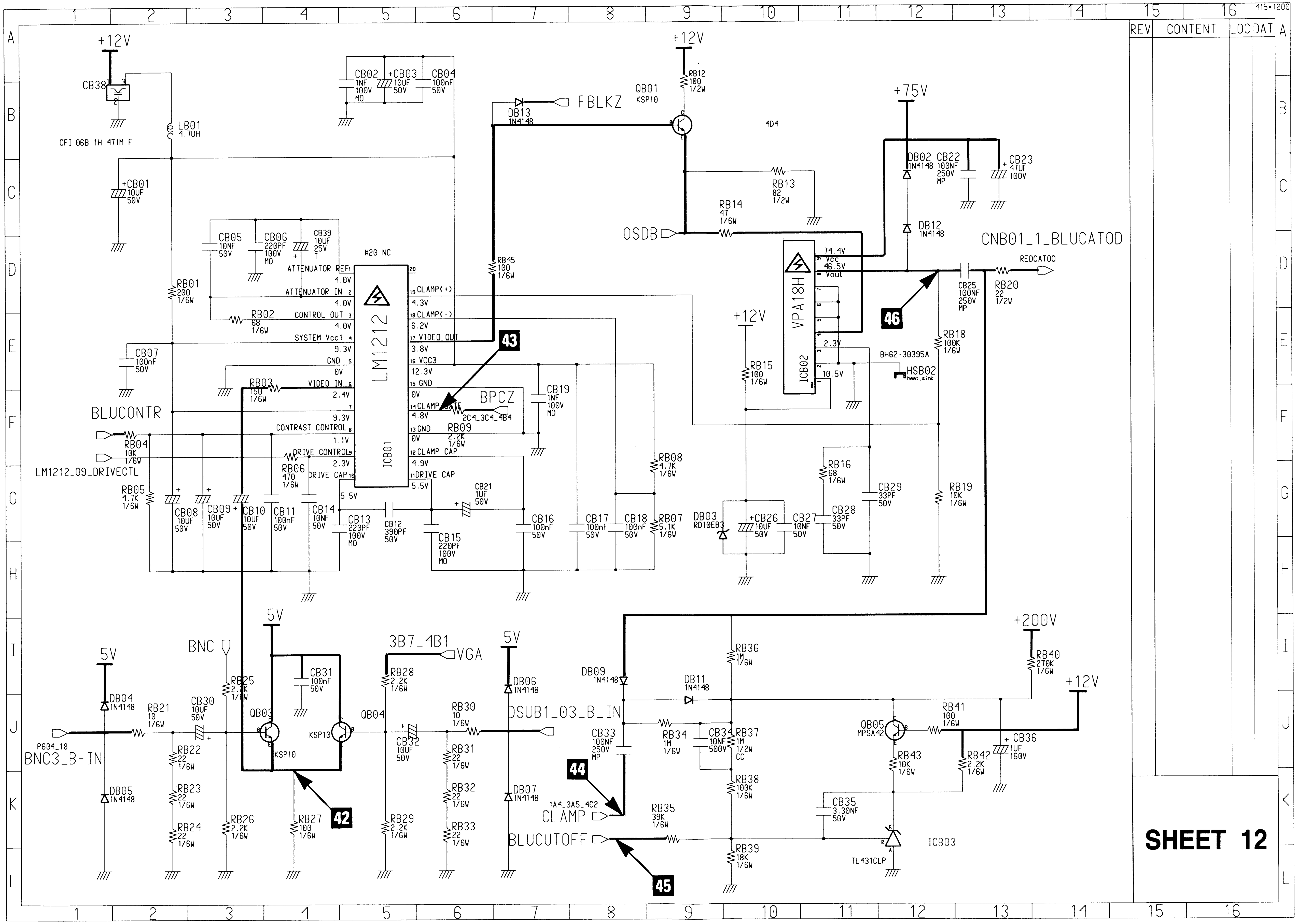


46 32.8 V (ICR02 #8)



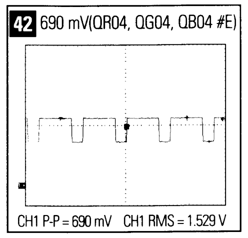
: Power Line

: Signal Line

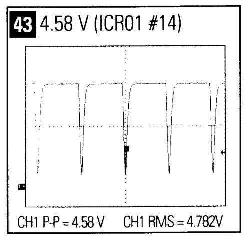

+12V
CB38
CFI 06B 1H 471M F
LB01 4.7UH
+CB01 10UF 50V
CB02 1NF 100V MO
+CB03 10UF 50V
CB04 100nF 50V
CB05 10NF 50V
CB06 220PF 100V MO
CB39 10UF 25V
#20 NC
RB01 200 1/6W
RB02 68 1/6W
CB07 100nF 50V
BLUCONTR
RB03 150 1/6W
RB04 10K 1/6W
LM1212_09_DRIVECTL
RB05 4.7K 1/6W
RB06 470 1/6W
CB08 10UF 50V
CB09 10UF 50V
CB10 10UF 50V
CB11 100nF 50V
CB14 10NF 50V
CB13 220PF 100V MO
CB12 390PF 50V
CB15 220PF 100V MO
CB21 1UF 50V
LM1212
ICB01
ATTENUATOR REF 1
ATTENUATOR IN 2
CONTROL OUT 3
SYSTEM Vcc1 4
GND 5
VIDEO IN 6
CONTRAST CONTROL 8
DRIVE CONTROL 9
DRIVE CAP 10
20
19 CLAMP(+)
18 CLAMP(-)
17 VIDEO OUT
16 VCC3
15 GND
14 CLAMP
13 GND
12 CLAMP CAP
11 DRIVE CAP
4.0V
4.0V
4.0V
9.3V
0V
2.4V
9.3V
1.1V
2.3V
5.5V
4.3V
6.2V
3.8V
12.3V
0V
4.8V
0V
4.9V
5.5V
FBLKZ
DB13 1N4148
RB45 100 1/6W
BPCZ
2C4_3C4_4B4
RB09 2.2K 1/6W
CB19 1NF 100V MO
CB16 100nF 50V
CB17 100nF 50V
CB18 100nF 50V
RB07 5.1K 1/6W
RB08 4.7K 1/6W
+12V
RB12 100 1/2W
QB01 KSP10
4D4
RB13 82 1/2W
RB14 47 1/6W
OSDB
+75V
DB02 1N4148
CB22 100NF 250V MP
CB23 47UF 100V
DB12 1N4148
CNB01_1_BLUCATOD
REDCATOD
CB25 100NF 250V MP
RB20 22 1/2W
VPA18H
ICB02
74.4V
Vcc
46.5V
Vout
2.3V
10.5V
BH62-30395A
HSB02
heat_sink
RB18 100K 1/6W
RB19 10K 1/6W
+12V
RB15 100 1/6W
RB16 68 1/6W
DB03 RD10EB3
+CB26 10UF 50V
CB27 10NF 50V
CB28 33PF 50V
CB29 33PF 50V
5V
DB04 1N4148
RB21 10 1/6W
CB30 10UF 50V
P604_18
BNC3_B-IN
DB05 1N4148
RB22 22 1/6W
RB23 22 1/6W
RB24 22 1/6W
BNC
RB25 2.2K 1/6W
RB26 2.2K 1/6W
5V
CB31 100nF 50V
QB03 KSP10
QB04 KSP10
RB27 100 1/6W
3B7_4B1
VGA
RB28 2.2K 1/6W
RB29 2.2K 1/6W
CB32 10UF 50V
RB30 10 1/6W
RB31 22 1/6W
RB32 22 1/6W
RB33 22 1/6W
5V
DB06 1N4148
DB07 1N4148
DSUB1_03_B_IN
DB09 1N4148
DB11 1N4148
CB33 100NF 250V MP
RB34 1M 1/6W
CB34 10NF 500V
RB36 1M 1/6W
RB37 1M 1/2W CC
RB38 100K 1/6W
RB39 18K 1/6W
1A4_3A5_4C2
CLAMP
BLUCUTOFF
RB35 39K 1/6W
CB35 3.30NF 50V
+200V
RB40 270K 1/6W
+12V
QB05 MPSA42
RB41 100 1/6W
RB43 10K 1/6W
RB42 2.2K 1/6W
+CB36 1UF 160V
ICB03
TL431CLP
42
43
44
45
46
415-1200
REV
CONTENT
LOC
DAT
SHEET 12

———— : Power Line

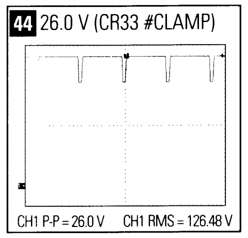
———— : Signal Line


42 690 mV(QR04, QG04, QB04 #E)

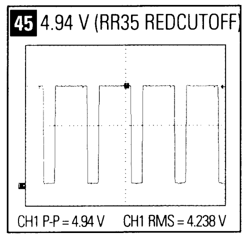
CH1 P-P = 690 mV CH1 RMS = 1.529 V


43 4.58 V (ICR01 #14)

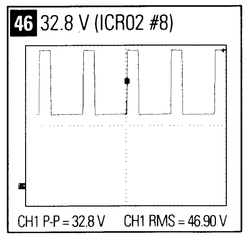
CH1 P-P = 4.58 V CH1 RMS = 4.782V


44 26.0 V (CR33 #CLAMP)

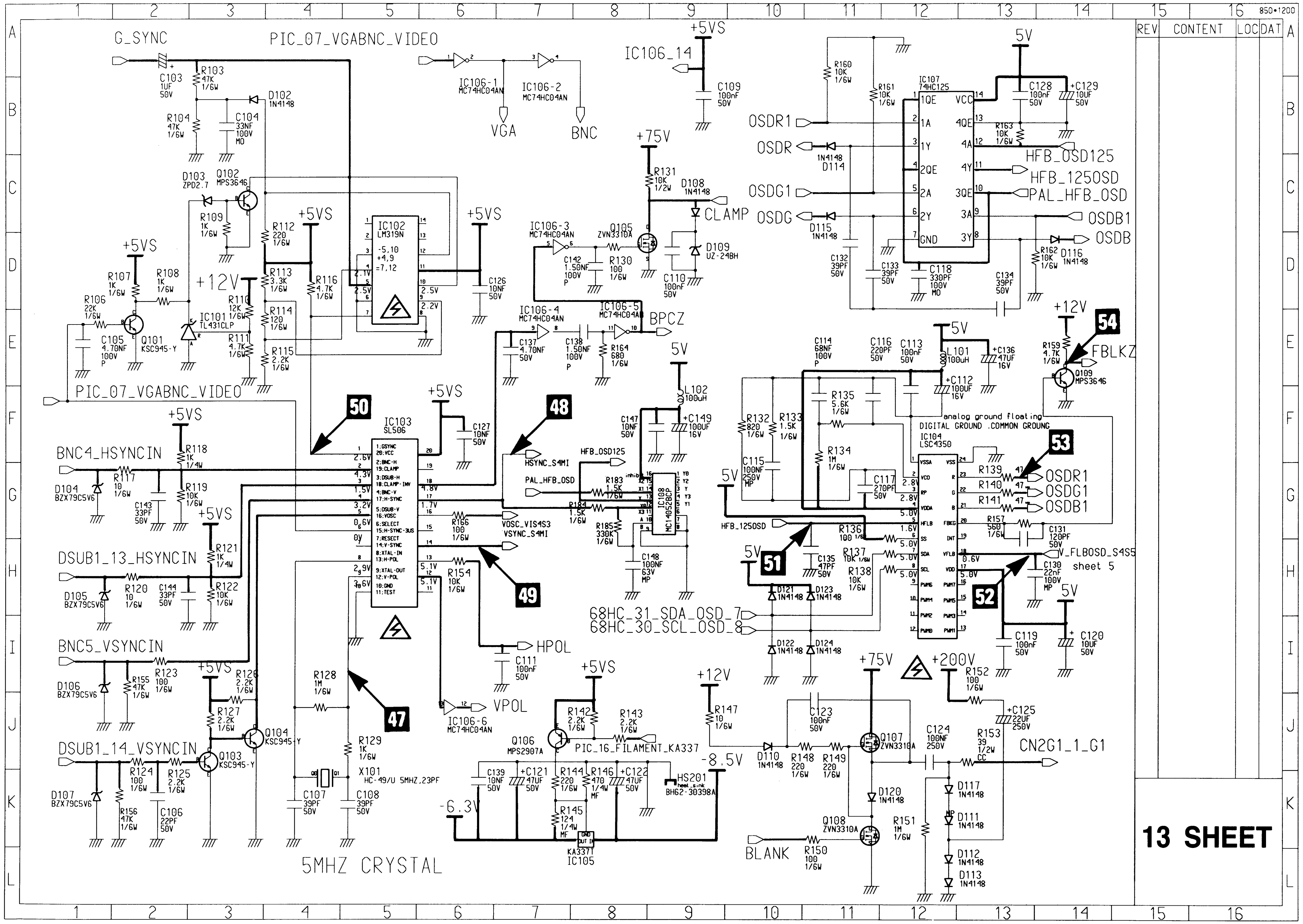
CH1 P-P = 26.0 V CH1 RMS = 126.48 V

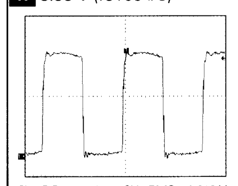

45 4.94 V (RR35 REDCUTOFF)

CH1 P-P = 4.94 V CH1 RMS = 4.238 V

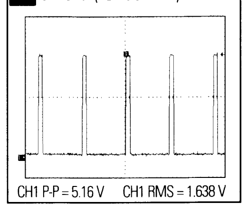

46 32.8 V (ICR02 #8)

CH1 P-P = 32.8 V CH1 RMS = 46.90 V

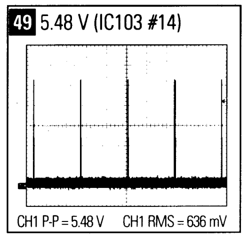

G_SYNC
PIC_07_VGABNC_VIDEO
IC106-1 MC74HC04AN
IC106-2 MC74HC04AN
VGA
BNC
IC106_14
+5VS
+75V
5V
OSDR1
OSDR
OSDG1
OSDG
IC107 74HC125
HFB_OSD125
HFB_1250SD
PAL_HFB_OSD
OSDB1
OSDB
IC102 LM319N
IC101 TL431CLP
IC103 SL506
+12V
CLAMP
BPCZ
IC106-3 MC74HC04AN
IC106-4 MC74HC04AN
IC106-5 MC74HC04AN
IC108 MC14052BCP
IC104 LSC4350
analog ground floating
DIGITAL GROUND .COMMON GROUND
FBLKZ
V_FLBOSD_S4S5
sheet 5
BNC4_HSYNCIN
DSUB1_13_HSYNCIN
BNC5_VSYNCIN
DSUB1_14_VSYNCIN
HSYNC_S4MI
PAL_HFB_OSD
HFB_OSD125
VOSC_VIS4S3
VSYNC_S4MI
HFB_1250SD
68HC_31_SDA_OSD_7
68HC_30_SCL_OSD_8
HPOL
VPOL
IC106-6 MC74HC04AN
X101 HC-49/U 5MHZ,23PF
5MHZ CRYSTAL
PIC_16_FILAMENT_KA337
IC105 KA337T
HS201 BH62-30398A
+200V
CN2G1_1_G1
BLANK
-6.3V
-8.5V
47
48
49
50
51
52
53
54
REV
CONTENT
LOC
DAT
13 SHEET


47 5.36 V (IC103 #9)

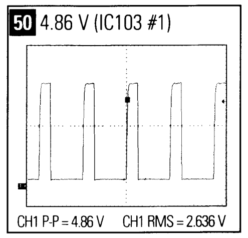
CH1 P-P = 5.36 V CH1 RMS = 3.618 V


48 5.16 V (IC103 #17)

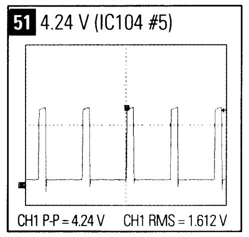
CH1 P-P = 5.16 V CH1 RMS = 1.638 V


49 5.48 V (IC103 #14)

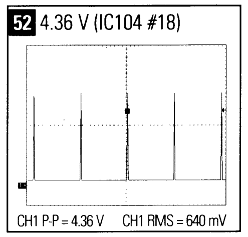
CH1 P-P = 5.48 V CH1 RMS = 636 mV


50 4.86 V (IC103 #1)

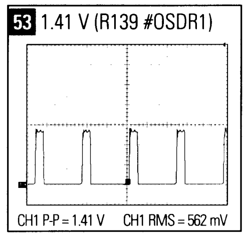
CH1 P-P = 4.86 V CH1 RMS = 2.636 V


51 4.24 V (IC104 #5)

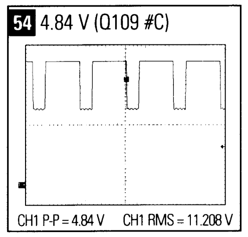
CH1 P-P = 4.24 V CH1 RMS = 1.612 V


52 4.36 V (IC104 #18)

CH1 P-P = 4.36 V CH1 RMS = 640 mV


53 1.41 V (R139 #OSDR1)

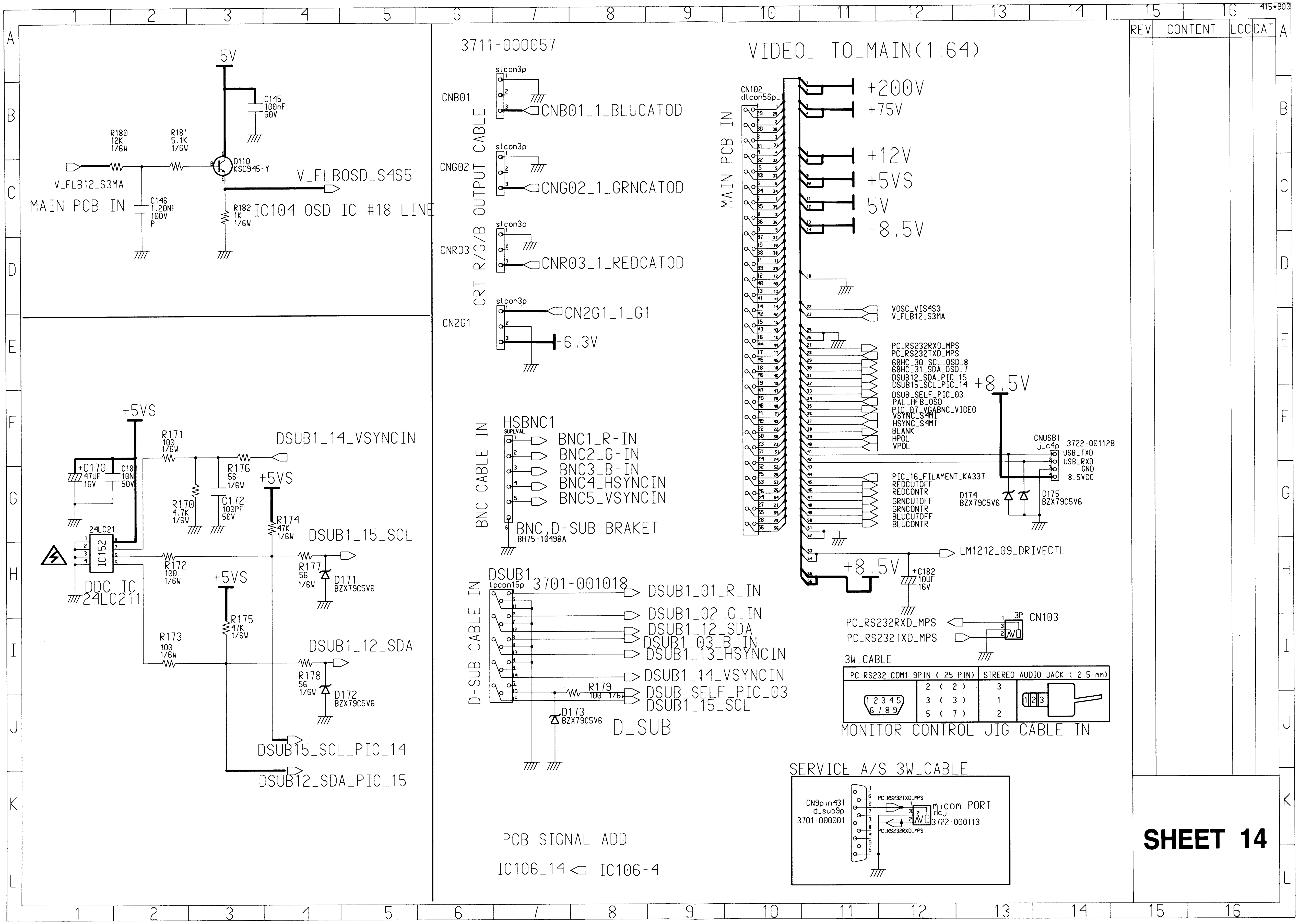
CH1 P-P = 1.41 V CH1 RMS = 562 mV


54 4.84 V (Q109 #C)

CH1 P-P = 4.84 V CH1 RMS = 11.208 V

———— : Power Line

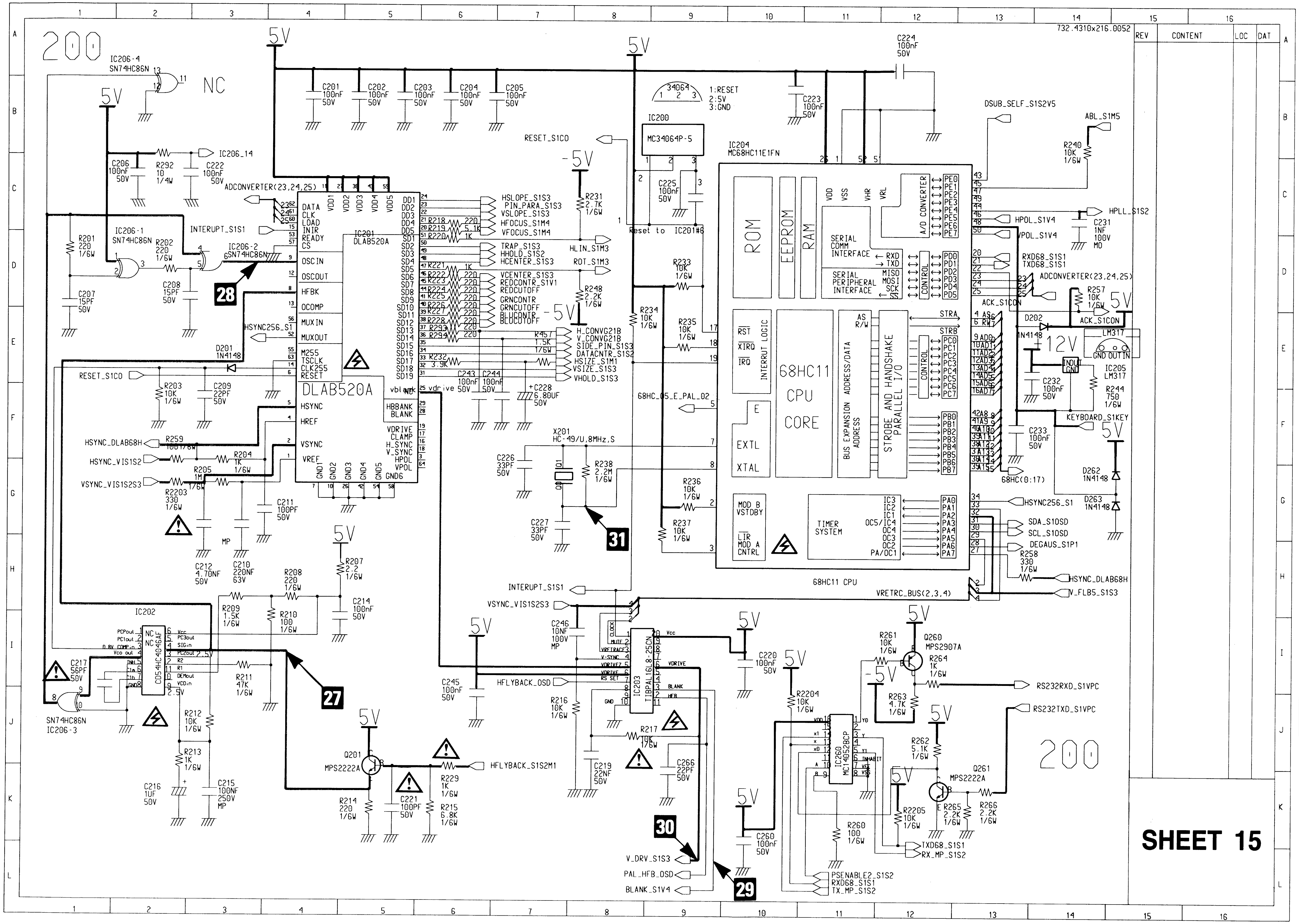
———— : Signal Line


415•900
REV | CONTENT | LOC | DAT
5V
C145 100nF 50V
R180 12K 1/6W
R181 5.1K 1/6W
Q110 KSC945-Y
V_FLB12_S3MA
V_FLBOSD_S4S5
MAIN PCB IN
C146 1.20NF 100V P
R182 1K 1/6W
IC104 OSD IC #18 LINE
3711-000057
slcon3p
CNB01
CNB01_1_BLUCATOD
CNG02
CNG02_1_GRNCATOD
CNR03
CNR03_1_REDCATOD
CN2G1
CN2G1_1_G1
-6.3V
CRT R/G/B OUTPUT CABLE
VIDEO__TO_MAIN(1:64)
CN102
dlcon56p
MAIN PCB IN
+200V
+75V
+12V
+5VS
5V
-8.5V
VOSC_VIS4S3
V_FLB12_S3MA
PC_RS232RXD_MPS
PC_RS232TXD_MPS
68HC_30_SCL_OSD_8
68HC_31_SDA_OSD_7
DSUB12_SDA_PIC_15
DSUB15_SCL_PIC_14
DSUB_SELF_PIC_03
PAL_HFB_OSD
PIC_07_VGABNC_VIDEO
VSYNC_S4MI
HSYNC_S4MI
BLANK
HPOL
VPOL
+8.5V
CNUSB1 J_c4p 3722-001128
USB_TXD
USB_RXD
GND
8.5VCC
PIC_16_FILAMENT_KA337
REDCUTOFF
REDCONTR
GRNCUTOFF
GRNCONTR
BLUCUTOFF
BLUCONTR
D174 BZX79C5V6
D175 BZX79C5V6
LM1212_09_DRIVECTL
+8.5V
C182 10UF 16V
PC_RS232RXD_MPS
PC_RS232TXD_MPS
3P CN103
3W_CABLE
PC RS232 COM1 9PIN (25 PIN) | STEREO AUDIO JACK (2.5 mm)
1 2 3 4 5
6 7 8 9
2 (2) 3
3 (3) 1
5 (7) 2
MONITOR CONTROL JIG CABLE IN
HSBNC1
BNC1_R-IN
BNC2_G-IN
BNC3_B-IN
BNC4_HSYNCIN
BNC5_VSYNCIN
BNC CABLE IN
BNC D-SUB BRAKET
BH75-10498A
+5VS
R171 100 1/6W
DSUB1_14_VSYNCIN
+C170 47UF 16V
C18 10NF 50V
R176 56 1/6W
+5VS
R170 4.7K 1/6W
C172 100PF 50V
R174 47K 1/6W
DSUB1_15_SCL
24LC21
IC152
R172 100 1/6W
R177 56 1/6W
D171 BZX79C5V6
DDC IC
24LC211
+5VS
R175 47K 1/6W
R173 100 1/6W
DSUB1_12_SDA
R178 56 1/6W
D172 BZX79C5V6
DSUB15_SCL_PIC_14
DSUB12_SDA_PIC_15
DSUB1
tpcon15p
3701-001018
DSUB1_01_R_IN
DSUB1_02_G_IN
DSUB1_12_SDA
DSUB1_03_B_IN
DSUB1_13_HSYNCIN
DSUB1_14_VSYNCIN
R179 100 1/6W
DSUB_SELF_PIC_03
DSUB1_15_SCL
D173 BZX79C5V6
D_SUB
D-SUB CABLE IN
SERVICE A/S 3W_CABLE
CN9pin431
d_sub9p
3701-000001
PC_RS232TXD_MPS
PC_RS232RXD_MPS
micom_PORT
dcJ
3722-000113
PCB SIGNAL ADD
IC106_14 ◁ IC106-4
SHEET 14

: Power Line

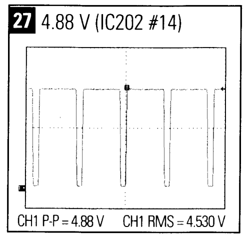
: Signal Line

11-8 Micom Schematic Diagrams

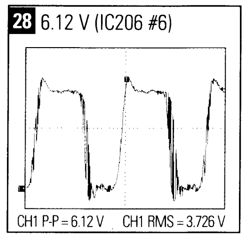

200
732.4310x216.0052
REV
CONTENT
LOC
DAT
IC206-4
SN74HC86N
NC
5V
C201 100nF 50V
C202 100nF 50V
C203 100nF 50V
C204 100nF 50V
C205 100nF 50V
C224 100nF 50V
34064
1:RESET
2:5V
3:GND
C223 100nF 50V
IC200
MC34064P-5
RESET_S1C0
-5V
DSUB_SELF_S1S2V5
ABL_S1M5
R240 10K 1/6W
IC204
MC68HC11E1FN
IC206_14
C206 100nF 50V
R292 10 1/4W
C222 100nF 50V
ADCONVERTER(23,24,25)
IC201
DLAB520A
HSLOPE_S1S3
PIN_PARA_S1S3
VSLOPE_S1S3
HFOCUS_S1M4
VFOCUS_S1M4
HLIN_S1M3
TRAP_S1S3
HHOLD_S1S2
HCENTER_S1S3
ROT_S1M3
VCENTER_S1S3
REDCONTR_S1V1
REDCUTOFF
GRNCONTR
GRNCUTOFF
BLUCONTR
BLUCUTOFF
H_CONVG21B
V_CONVG21B
SIDE_PIN_S1S3
DATACNTR_S1S2
HSIZE_S1M1
VSIZE_S1S3
VHOLD_S1S3
R231 2.7K 1/6W
R248 2.2K 1/6W
Reset to IC201#6
C225 100nF 50V
R233 10K 1/6W
R234 10K 1/6W
R235 10K 1/6W
68HC_05_E_PAL_02
ROM
EEPROM
RAM
SERIAL COMM INTERFACE
SERIAL PERIPHERAL INTERFACE
A/D CONVERTER
CONTROL
68HC11 CPU CORE
INTERRUPT LOGIC
BUS EXPANSION ADDRESS
ADDRESS/DATA
STROBE AND HANDSHAKE PARALLEL I/O
EXTL
XTAL
MOD B VSTDBY
LIR MOD A CNTRL
TIMER SYSTEM
68HC11 CPU
HPLL_S1S2
HPOL_S1V4
VPOL_S1V4
C231 1NF 100V MO
RXD68_S1S1
TXD68_S1S1
ADCONVERTER(23,24,25)
R257 10K 1/6W
ACK_S1CON
D202 1N4148
+12V
LM317
GND OUT IN
IC205 LM317
C232 100nF 50V
R244 750 1/6W
KEYBOARD_S1KEY
C233 100nF 50V
D262 1N4148
D263 1N4148
68HC(0:17)
HSYNC256_S1
SDA_S1OSD
SCL_S1OSD
DEGAUS_S1P1
R258 330 1/6W
HSYNC_DLAB68H
V_FLB5_S1S3
VRETRC_BUS(2,3,4)
INTERUPT_S1S1
IC206-1
SN74HC86N
R201 220 1/6W
R202 220 1/6W
IC206-2 SN74HC86N
C207 15PF 50V
C208 15PF 50V
HSYNC256_S1
D201 1N4148
RESET_S1C0
R203 10K 1/6W
C209 22PF 50V
HSYNC_DLAB68H
R259 100 1/6W
HSYNC_VIS1S2
R204 1K 1/6W
R205 1M 1/6W
VSYNC_VIS1S2S3
R2203 330 1/6W
C211 100PF 50V
MP
C212 4.70NF 50V
C210 220NF 63V
R208 220 1/6W
R207 2.2 1/6W
R209 1.5K 1/6W
R210 100 1/6W
C214 100nF 50V
C243 100nF 50V
C244 100nF 50V
C228 6.80UF 50V
X201 HC-49/U,8MHz,S
C226 33PF 50V
C227 33PF 50V
R238 2.2M 1/6W
R236 10K 1/6W
R237 10K 1/6W
IC202
CD54HC4046AF
C217 56PF 50V
SN74HC86N
IC206-3
R211 47K 1/6W
R212 10K 1/6W
R213 1K 1/6W
C216 1UF 50V
C215 100NF 250V MP
Q201 MPS2222A
R214 220 1/6W
C221 100PF 50V
R229 1K 1/6W
R215 6.8K 1/6W
HFLYBACK_S1S2M1
C245 100nF 50V
HFLYBACK_OSD
C246 10NF 100V MP
IC203 TIBPAL16L8-25CN
R216 10K 1/6W
R217 10K 1/6W
C219 22NF 50V
C266 22PF 50V
V_DRV_S1S3
PAL_HFB_OSD
BLANK_S1V4
C220 100nF 50V
R2204 10K 1/6W
IC260 MC14052BCP
C260 100nF 50V
R260 100 1/6W
PSENABLE2_S1S2
RXD68_S1S1
TX_MP_S1S2
R261 10K 1/6W
Q260 MPS2907A
R264 1K 1/6W
R263 4.7K 1/6W
RS232RXD_S1VPC
RS232TXD_S1VPC
R262 5.1K 1/6W
Q261 MPS2222A
R2205 10K 1/6W
R265 2.2K 1/6W
R266 2.2K 1/6W
TXD68_S1S1
RX_MP_S1S2
200
27
28
29
30
31

SHEET 15

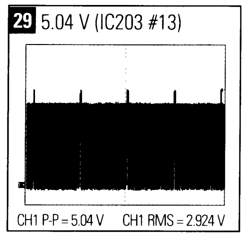
27 4.88 V (IC202 #14)



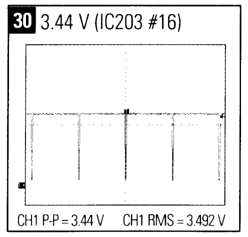
28 6.12 V (IC206 #6)



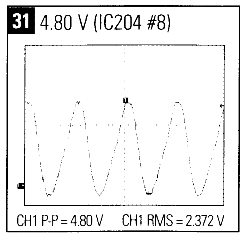
29 5.04 V (IC203 #13)



30 3.44 V (IC203 #16)

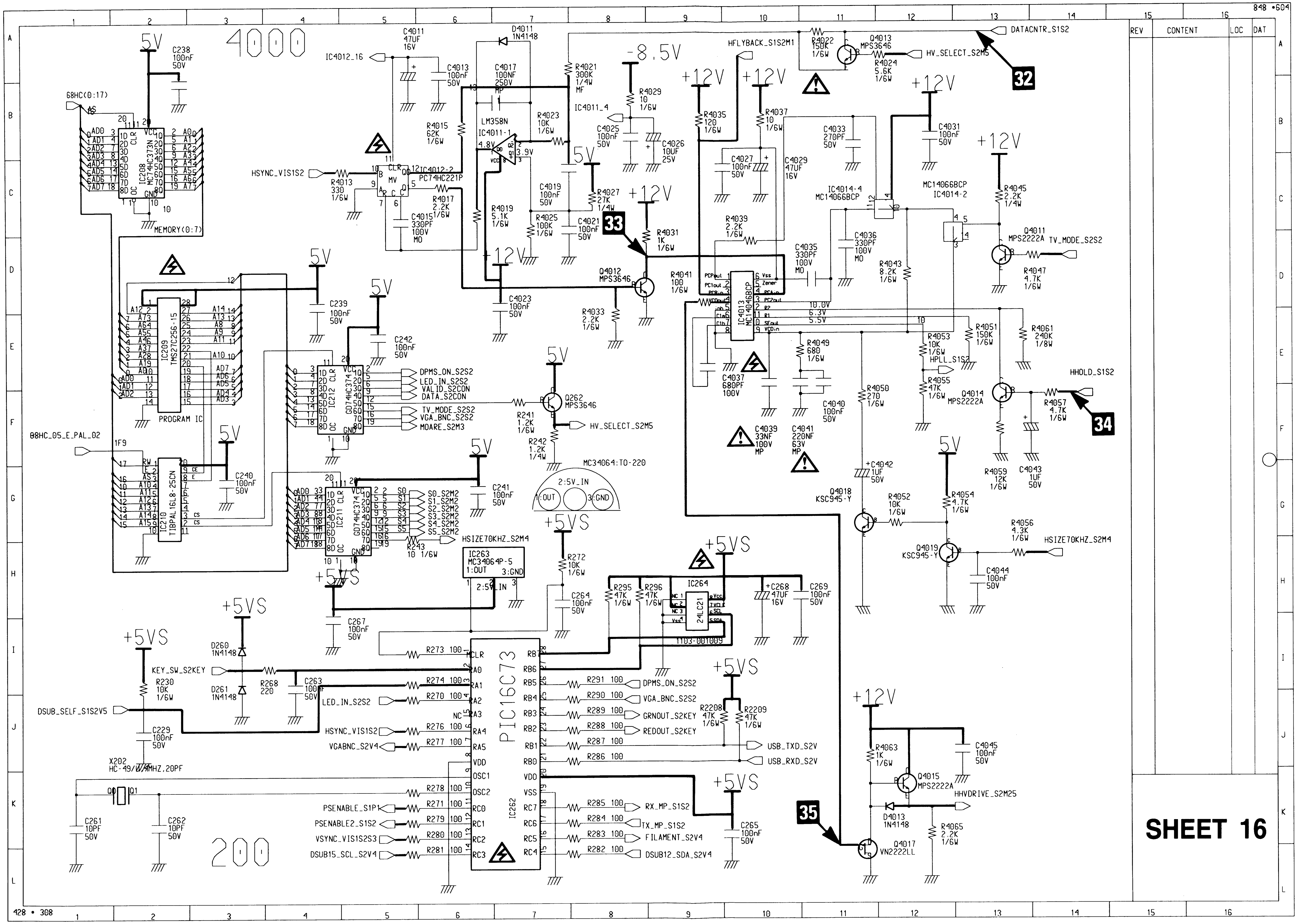


31 4.80 V (IC204 #8)

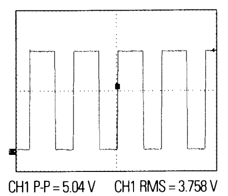


——— : Power Line

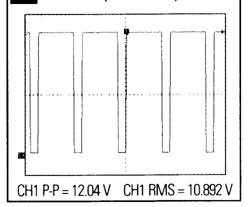
——— : Signal Line


4000
200
SHEET 16
REV
CONTENT
LOC
DAT
IC208 MC74HC373N
IC209 TMS27C256-15
PROGRAM IC
IC210 TIBPAL16L8-25CN
IC212 GD74HC374
IC211 GD74HC374
IC262 PIC16C73
IC263 MC34064P-5
MC34064:TO-220
IC264 24LC21
IC4011 LM358N
IC4012 PC74HC221P
IC4013 MC14046BCP
IC4014 MC14066BCP
Q262 MPS3646
Q4011 MPS2222A
Q4012 MPS3646
Q4013 MPS3646
Q4014 MPS2222A
Q4015 MPS2222A
Q4017 VN2222LL
Q4018 KSC945-Y
Q4019 KSC945-Y
X202 HC-49/U 4MHZ,20PF
68HC(0:17)
MEMORY(0:7)
88HC_05_E_PAL_02
HSYNC_VIS1S2
IC4012_16
HFLYBACK_S1S2M1
DATACNTR_S1S2
HV_SELECT_S2M5
TV_MODE_S2S2
HHOLD_S1S2
HPLL_S1S2
HSIZE70KHZ_S2M4
HHVDRIVE_S2M25
DPMS_ON_S2S2
LED_IN_S2S2
VALID_S2CON
DATA_S2CON
VGA_BNC_S2S2
MOARE_S2M3
S0_S2M2
S1_S2M2
S2_S2M2
S3_S2M2
S4_S2M2
S5_S2M2
KEY_SW_S2KEY
DSUB_SELF_S1S2V5
VGABNC_S2V4
GRNOUT_S2KEY
REDOUT_S2KEY
USB_TXD_S2V
USB_RXD_S2V
PSENABLE_S1P1
PSENABLE2_S1S2
VSYNC_VIS1S2S3
DSUB15_SCL_S2V4
RX_MP_S1S2
TX_MP_S1S2
FILAMENT_S2V4
DSUB12_SDA_S2V4
5V
+5VS
+12V
-8.5V
32
33
34
35
848 • 604
428 • 308

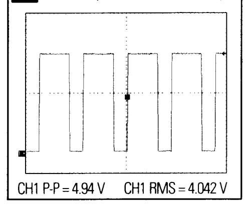
5.04 V (Q413 #C)



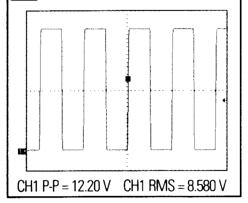
12.04 V (Q402 #C)



4.94 V (R4057 #HHOLD)

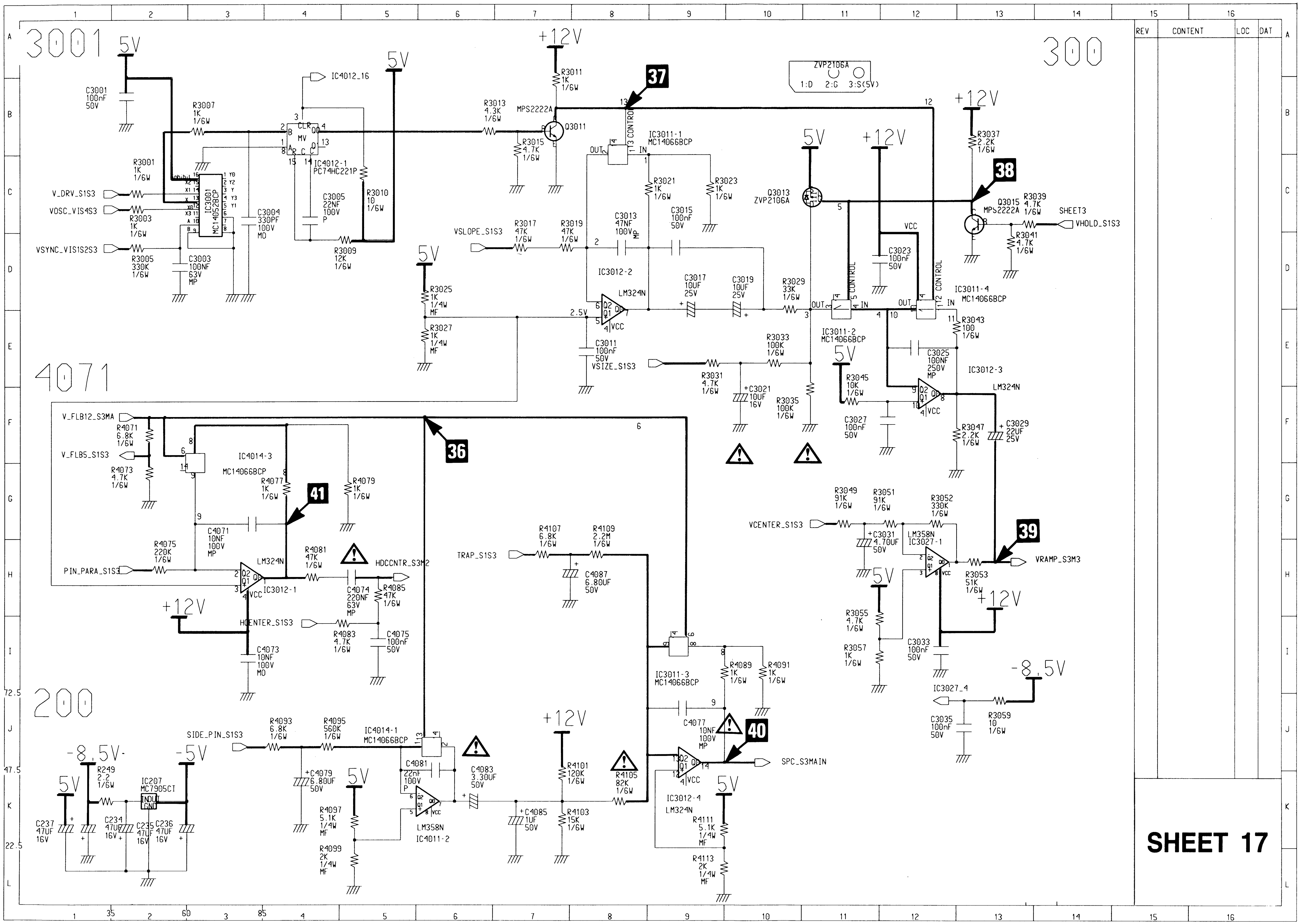


12.20 V (Q4017 #G)

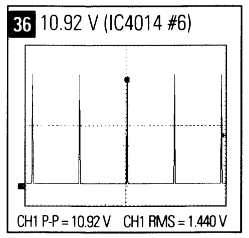


——— : Power Line

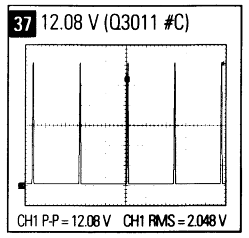
——— : Signal Line


3001
300
4071
200
5V
+12V
-8.5V
-5V
C3001 100nF 50V
R3007 1K 1/6W
R3001 1K 1/6W
R3003 1K 1/6W
R3005 330K 1/6W
C3003 100NF 63V MP
C3004 330PF 100V MD
IC3001 MC14052BCP
V_DRV_S1S3
VOSC_VIS4S3
VSYNC_VIS1S2S3
IC4012_16
IC4012-1 PC74HC221P
C3005 22NF 100V P
R3010 10 1/6W
R3009 12K 1/6W
R3011 1K 1/6W
R3013 4.3K 1/6W
R3015 4.7K 1/6W
MPS2222A
Q3011
IC3011-1 MC14066BCP
R3021 1K 1/6W
R3023 1K 1/6W
C3013 47NF 100V MP
C3015 100nF 50V
VSLOPE_S1S3
R3017 47K 1/6W
R3019 47K 1/6W
IC3012-2
LM324N
R3025 1K 1/4W MF
R3027 1K 1/4W MF
C3011 100nF 50V
VSIZE_S1S3
C3017 10UF 25V
C3019 10UF 25V
R3029 33K 1/6W
R3031 4.7K 1/6W
C3021 10UF 16V
R3033 100K 1/6W
R3035 100K 1/6W
ZVP2106A
1:D 2:G 3:S(5V)
Q3013 ZVP2106A
IC3011-2 MC14066BCP
C3023 100nF 50V
IC3011-4 MC14066BCP
R3037 2.2K 1/6W
Q3015 MPS2222A
R3039 4.7K 1/6W
R3041 4.7K 1/6W
SHEET3
VHOLD_S1S3
R3043 100 1/6W
C3025 100NF 250V MP
IC3012-3
LM324N
R3045 10K 1/6W
C3027 100nF 50V
R3047 2.2K 1/6W
C3029 22UF 25V
V_FLB12_S3MA
V_FLB5_S1S3
R4071 6.8K 1/6W
R4073 4.7K 1/6W
IC4014-3 MC14066BCP
R4077 1K 1/6W
R4079 1K 1/6W
C4071 10NF 100V MP
R4075 220K 1/6W
PIN_PARA_S1S3
IC3012-1
R4081 47K 1/6W
HDCCNTR_S3M2
C4074 220NF 63V MP
R4085 47K 1/6W
HCENTER_S1S3
R4083 4.7K 1/6W
C4075 100nF 50V
C4073 10NF 100V MD
TRAP_S1S3
R4107 6.8K 1/6W
R4109 2.2M 1/6W
C4087 6.80UF 50V
IC3011-3 MC14066BCP
R4089 1K 1/6W
R4091 1K 1/6W
C4077 10NF 100V MP
SPC_S3MAIN
IC3012-4 LM324N
R4111 5.1K 1/4W MF
R4113 2K 1/4W MF
R4101 120K 1/6W
R4103 15K 1/6W
R4105 82K 1/6W
C4085 1UF 50V
C4083 3.30UF 50V
SIDE_PIN_S1S3
R4093 6.8K 1/6W
R4095 560K 1/6W
IC4014-1 MC14066BCP
C4079 6.80UF 50V
C4081 22nF 100V P
LM358N IC4011-2
R4097 5.1K 1/4W MF
R4099 2K 1/4W MF
R249 2.2 1/6W
IC207 MC7905CI
C237 47UF 16V
C234 47UF 16V
C235 47UF 16V
C236 47UF 16V
VCENTER_S1S3
R3049 91K 1/6W
R3051 91K 1/6W
R3052 330K 1/6W
C3031 4.70UF 50V
LM358N IC3027-1
R3053 51K 1/6W
VRAMP_S3M3
R3055 4.7K 1/6W
R3057 1K 1/6W
C3033 100nF 50V
IC3027_4
R3059 10 1/6W
C3035 100nF 50V
36
37
38
39
40
41
REV
CONTENT
LOC
DAT
SHEET 17

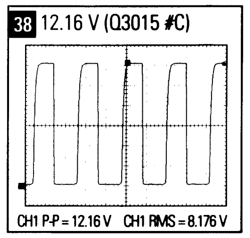
36 10.92 V (IC4014 #6)



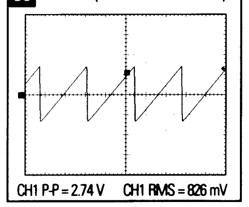
37 12.08 V (Q3011 #C)



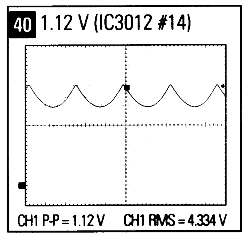
38 12.16 V (Q3015 #C)



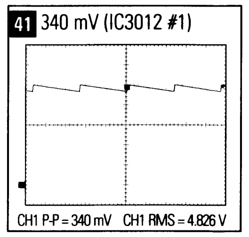
39 2.74 V (C3029 #VRAMP)



40 1.12 V (IC3012 #14)

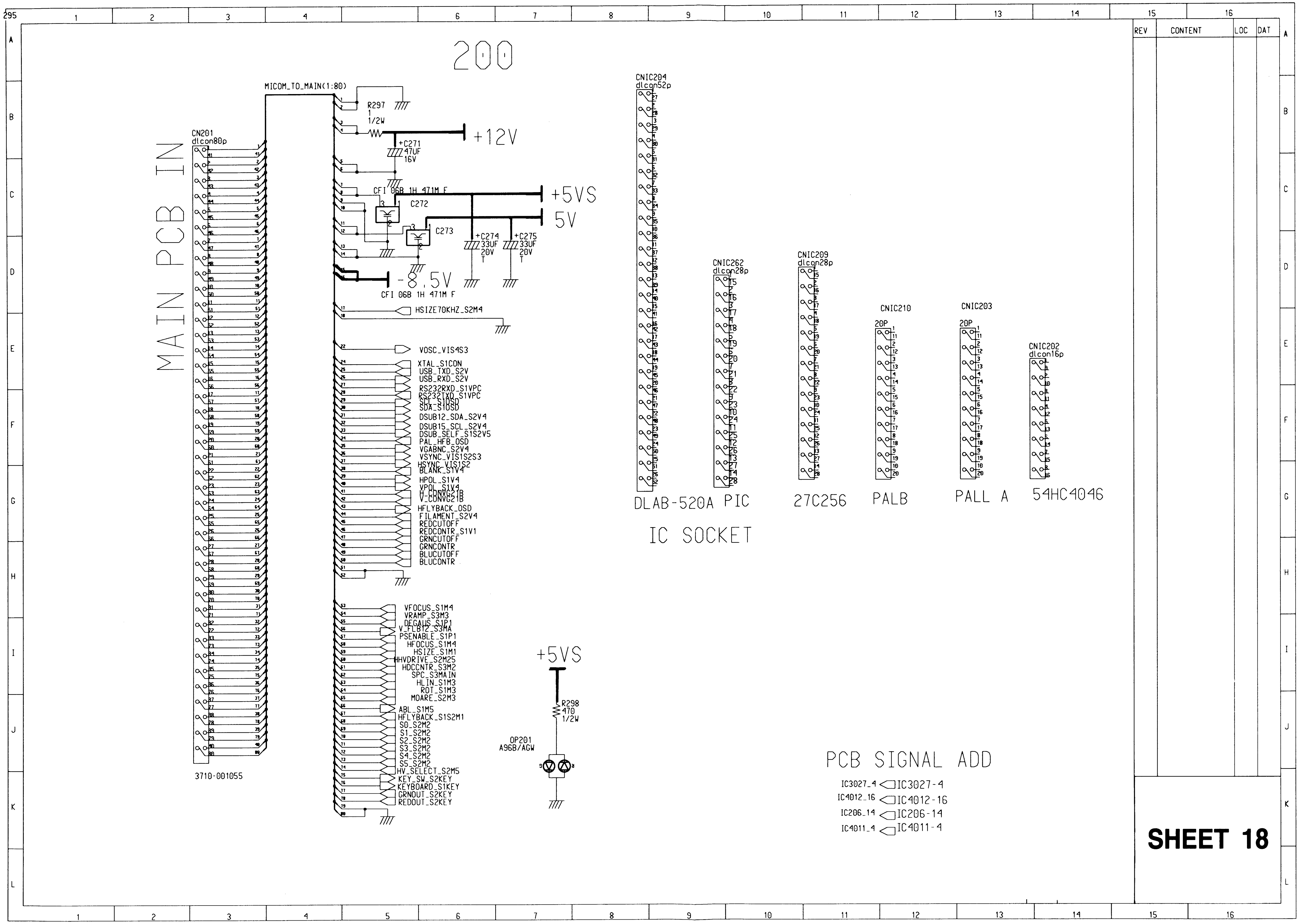


41 340 mV (IC3012 #1)



———: Power Line

———: Signal Line


200
MAIN PCB IN
CN201
dlcon80p
3710-001055
MICOM_TO_MAIN(1:80)
R297
1
1/2W
+12V
+C271
47UF
16V
CFI 06B 1H 471M F
C272
C273
+5VS
5V
+C274
33UF
20V
T
+C275
33UF
20V
T
-8.5V
CFI 06B 1H 471M F
HSIZE70KHZ_S2M4
VOSC_VIS4S3
XTAL_S1CON
USB_TXD_S2V
USB_RXD_S2V
RS232RXD_S1VPC
RS232TXD_S1VPC
SCL_S1OSD
SDA_S1OSD
DSUB12_SDA_S2V4
DSUB15_SCL_S2V4
DSUB_SELF_S1S2V5
PAL_HFB_OSD
VGABNC_S2V4
VSYNC_VIS1S2S3
HSYNC_VIS1S2
BLANK_S1V4
HPOL_S1V4
VPOL_S1V4
H_CONVG21B
V_CONVG21B
HFLYBACK_OSD
FILAMENT_S2V4
REDCUTOFF
REDCONTR_S1V1
GRNCUTOFF
GRNCONTR
BLUCUTOFF
BLUCONTR
VFOCUS_S1M4
VRAMP_S3M3
DEGAUS_S1P1
V_FLB12_S3MA
PSENABLE_S1P1
HFOCUS_S1M4
HSIZE_S1M1
HHVDRIVE_S2M25
HDCCNTR_S3M2
SPC_S3MAIN
HLIN_S1M3
ROT_S1M3
MOARE_S2M3
ABL_S1M5
HFLYBACK_S1S2M1
S0_S2M2
S1_S2M2
S2_S2M2
S3_S2M2
S4_S2M2
S5_S2M2
HV_SELECT_S2M5
KEY_SW_S2KEY
KEYBOARD_S1KEY
GRNOUT_S2KEY
REDOUT_S2KEY
+5VS
R298
470
1/2W
OP201
A96B/AGW
CNIC204
dlcon52p
DLAB-520A
CNIC262
dlcon28p
PIC
CNIC209
dlcon28p
27C256
CNIC210
20P
PALB
CNIC203
20P
PALL A
CNIC202
dlcon16p
54HC4046
IC SOCKET
PCB SIGNAL ADD
IC3027_4
IC3027-4
IC4012_16
IC4012-16
IC206_14
IC206-14
IC4011_4
IC4011-4
REV
CONTENT
LOC
DAT
SHEET 18

———— : Power Line

11-9 Continuation Directory

Signal Name	Sheet No.	Location
+S10V_S2P	2	B, 15
–S10V_S2P	2	E, 14
+S10V_S2P	6	D, 1
–S10V_S2P	6	D, 1
22	4	J, 3
374_MOARE_PAL_S3M	3	E, 9
374_MOARE_PAL_S3M	6	J, 8
68HC	15	G, 13
68HC	16	B, 1
68HC_05_E_PAL_02	15	F, 8
68HC_05_E_PAL_02	16	F, 1
68HC_30_SCL_OSD_8	6	F, 13
68HC_30_SCL_OSD_8	6	F, 8
68HC_30_SCL_OSD_8	13	I, 8
68HC_30_SCL_OSD_8	14	E, 12
68HC_31_SDA_OSD_7	6	F, 13
68HC_31_SDA_OSD_7	6	F, 8
68HC_31_SDA_OSD_7	13	I, 8
68HC_31_SDA_OSD_7	14	E, 12
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ABL	6	J, 8
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ACK_S1CON	15	E, 14
ADCONVERTER	15	D, 14
ADCONVERTER	15	C, 3
BLANK	6	G, 13
BLANK	6	G, 8
BLANK	13	L, 10
BLANK	14	F, 12
BLANK_S1V4	15	L, 8
BLANK_S1V4	18	G, 5
BLU	9	I, 3
BLU	9	J, 5
BLUCONTR	6	H, 13
BLUCONTR	6	H, 8
BLUCONTR	12	F, 2
BLUCONTR	14	G, 12
BLUCONTR	15	E, 7
BLUCONTR	18	H, 5
BLUCUTOFF	6	H, 13
BLUCUTOFF	6	H, 8
BLUCUTOFF	12	L, 8
BLUCUTOFF	14	G, 12
BLUCUTOFF	15	E, 7
BLUCUTOFF	18	H, 5
BNC	10	I, 3
BNC	11	I, 3
BNC	12	I, 3
BNC	13	B, 7
BNC1_R-IN	10	J, 1
BNC1_R-IN	14	F, 8
BNC2_G-IN	11	J, 1
BNC2_G-IN	14	F, 8
BNC3_B-IN	12	J, 1
BNC3_B-IN	14	G, 8
BNC4_HSYNCIN	13	F, 2
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CN2G1_1_G1	14	E, 7
CNB01_1_BLUCATOD	12	D, 13
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Signal Name	Sheet No.	Location
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DEGAUS_S1P1	15	H, 13
DEGAUS_S1P1	18	I, 5
DEGAUSSING	6	E, 1
DEGAUSSING	6	I, 8
DEGAUSSING	7	I, 1
DEGAUSSING	8	B, 16
DF	4	D, 1
DF	5	I, 4
DPMS_ON_S2S2	16	E, 6
DPMS_ON_S2S2	16	I, 8
DSUB_SELF_PIC_03	6	G, 13
DSUB_SELF_PIC_03	6	F, 8
DSUB_SELF_PIC_03	14	J, 9
DSUB_SELF_PIC_03	14	F, 12
DSUB_SELF_S1S2V5	15	B, 14
DSUB_SELF_S1S2V5	16	J, 1
DSUB_SELF_S1S2V5	18	F, 5
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DSUB1_02_G_IN	11	J, 8
DSUB1_02_G_IN	14	I, 9
DSUB1_03_B_IN	12	J, 8
DSUB1_03_B_IN	14	I, 10
DSUB1_12_SDA	14	I, 9
DSUB1_12_SDA	14	I, 4
DSUB1_13_HSYNCIN	13	H, 1
DSUB1_13_HSYNCIN	14	J, 9
DSUB1_14_VSYNCIN	13	J, 3
DSUB1_14_VSYNCIN	14	J, 9
DSUB1_14_VSYNCIN	14	F, 4
DSUB1_15_SCL	14	J, 9
DSUB1_15_SCL	14	H, 4
DSUB12_SDA_PIC_15	6	F, 13
DSUB12_SDA_PIC_15	6	F, 8
DSUB12_SDA_PIC_15	14	K, 3
DSUB12_SDA_PIC_15	14	E, 12
DSUB12_SDA_S2V4	16	L, 8
DSUB12_SDA_S2V4	18	F, 5
DSUB15_SCL_PIC_14	6	G, 13
DSUB15_SCL_PIC_14	6	F, 8
DSUB15_SCL_PIC_14	14	J, 3
DSUB15_SCL_PIC_14	14	F, 12
DSUB15_SCL_S2V4	16	L, 5
DSUB15_SCL_S2V4	18	F, 5
FBLKZ	10	B, 8
FBLKZ	11	B, 8
FBLKZ	12	B, 8
FBLKZ	13	E, 14
FBP_S1S2	1	H, 15
FBP_S1S2	2	B, 4
FILAMENT_S2V4	16	K, 8
FILAMENT_S2V4	18	G, 5
G_SYNC	11	I, 1
G_SYNC	13	A, 2
G1	9	K, 5
G1	9	I, 3
GND	14	G, 14
GRN	9	H, 3
GRN	9	I, 5
GRN_OUT	9	C, 13
GRN_OUT	9	C, 7
GRNCONTR	6	H, 13
GRNCONTR	6	H, 8
GRNCONTR	11	F, 2
GRNCONTR	14	G, 12
GRNCONTR	15	D, 7
GRNCONTR	18	H, 5
GRNCUTOFF	6	H, 13
GRNCUTOFF	6	H, 8
GRNCUTOFF	11	L, 8
GRNCUTOFF	14	G, 12
GRNCUTOFF	15	E, 7
GRNCUTOFF	18	H, 5
GRNOUT_S2KEY	16	J, 8
GRNOUT_S2KEY	18	K, 6
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H/V_SELECT	6	K, 8
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H_SIZE_70KHZ	6	E, 8
HCENTER_S1S3	15	D, 7
HCENTER_S1S3	17	I, 4
HDCCNTR_S2M	2	A, 8
HDCCNTR_S2M	6	I, 8
HDCCNTR_S3M2	17	H, 5
HDCCNTR_S3M2	18	I, 6
HFB_OSD_S4	13	C, 13
HFB_OSD_S4	13	G, 7
HFLYBACK_OSD	2	J, 1
HFLYBACK_OSD	6	G, 8
HFLYBACK_OSD	15	I, 7
HFLYBACK_OSD	18	G, 5
HFLYBACK_S1M	1	G, 2
HFLYBACK_S1M	6	J, 9
HFLYBACK_S1S2M1	15	K, 6
HFLYBACK_S1S2M1	16	A, 10
HFLYBACK_S1S2M1	18	J, 6
HFOCUS	4	I, 11
HFOCUS	6	I, 8
HFOCUS_S1M4	15	C, 7
HFOCUS_S1M4	18	I, 6
HHOLD_S1S2	15	D, 7
HHOLD_S1S2	16	E, 15
HHVDRIVE_S2M25	16	K, 12
HHVDRIVE_S2M25	18	I, 6
HLIN_S1M3	15	D, 7
HLIN_S1M3	18	I, 6
HLIN_S3M	3	C, 10
HLIN_S3M	6	I, 8
HPLL_S1S2	15	C, 14
HPLL_S1S2	16	E, 12
HPOL	6	G, 13
HPOL	6	G, 8
HPOL	13	I, 7
HPOL	14	F, 12
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Signal Name	Sheet No.	Location
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HSIZE_S1M1	18	I, 6
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HSIZE70KHZ_S2M4	16	H, 14
HSIZE70KHZ_S2M4	18	E, 5
HSLOPE_S1S3	15	C, 7
HSYNC_DLAB68H	15	F, 1
HSYNC_DLAB68H	15	H, 15
HSYNC_S4MI	13	G, 7
HSYNC_S4MI	14	F, 12
HSYNC_VIS1S2	15	G, 2
HSYNC_VIS1S2	16	J, 4
HSYNC_VIS1S2	16	C, 4
HSYNC_VIS1S2	18	G, 5
HSYNC256_S1	15	G, 14
HSYNC256_S1	15	E, 3
HV_PROTECT	5	G, 10
HV_PROTECT	5	C, 1
HV_SELECT_S2M5	16	F, 8
HV_SELECT_S2M5	16	A, 12
HV_SELECT_S2M5	18	K, 6
IC106_14	13	A, 8
IC106_14	14	L, 10
IC206_14	15	C, 3
IC206_14	18	K, 11
IC3027_4	17	J, 12
IC3027_4	18	K, 11
IC4011_4	16	B, 8
IC4011_4	18	K, 11
IC4012_16	16	A, 4
IC4012_16	17	B, 4
IC4012_16	18	K, 11
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INTERUPT_S1S1	15	D, 3
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KEY_SW_PIC_02	6	I, 5
KEY_SW_S2KEY	16	I, 3

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KEYBOARD_68HC_48	6	K, 9
KEYBOARD_68HC_48	6	I, 5
KEYBOARD_S1KEY	15	F, 15
KEYBOARD_S1KEY	18	K, 6
LED_IN_S2S2	16	E, 6
LED_IN_S2S2	16	J, 5
LM1212_09_DRIVECTL	5	H, 4
LM1212_09_DRIVECTL	6	I, 13
LM1212_09_DRIVECTL	10	G, 2
LM1212_09_DRIVECTL	11	G, 2
LM1212_09_DRIVECTL	12	G, 2
LM1212_09_DRIVECTL	14	H, 12
MAIN_TO_MICOM	6	B, 6
MAIN_TO_VIDEO_CG	6	B, 12
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MC14046_H_HVDRIVE_S	5	F, 9
MC14046_H_HVDRIVE_S	6	I, 8
MEMORY	16	C, 2
MICOM_TO_MAIN	18	B, 3
MOARE_S2M3	16	F, 6
MOARE_S2M3	18	J, 6
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NEUTRAL_S2P	6	D, 1
OSDB	12	C, 8
OSDB	13	D, 14
OSDB1	13	G, 14
OSDB1	13	C, 14
OSDG	11	C, 8
OSDG	13	C, 10
OSDG1	13	G, 14
OSDG1	13	C, 10
OSDR	10	C, 8
OSDR	13	B, 10
OSDR1	13	G, 14
OSDR1	13	B, 10
PAL_HFB_OSD	6	G, 13
PAL_HFB_OSD	6	F, 8
PAL_HFB_OSD	13	C, 15
PAL_HFB_OSD	14	F, 12
PAL_HFB_OSD	15	L, 8
PAL_HFB_OSD	18	F, 5
PARA_S1M	1	C, 8
PARA_S1M	6	I, 8
PC_RS232RXD_MPS	6	F, 13
PC_RS232RXD_MPS	6	F, 8
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PC_RS232TXD_MPS	6	F, 14
PC_RS232TXD_MPS	6	F, 9
PC_RS232TXD_MPS	14	E, 13
PC_RS232TXD_MPS	14	I, 12
PC_RS232TXD_MPS	14	J, 11
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PIC_07_VGABNC_VIDEO	6	F, 8
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PIC_07_VGABNC_VIDEO	13	F, 3
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PIC_16_FILAMENT_KA3	6	H, 13
PIC_16_FILAMENT_KA3	6	G, 10
PIC_16_FILAMENT_KA3	13	J, 9
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PIC_22_PSENABLE_POW	6	I, 9
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PSENABLE_S1P1	16	K, 4
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PSENABLE2_S1S2	16	K, 5
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REDCONTR	6	G, 8
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REDCONTR	14	G, 12
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REDCONTR_S1V1	18	G, 5
REDCUTOFF	6	H, 13
REDCUTOFF	6	G, 8
REDCUTOFF	10	L, 8
REDCUTOFF	14	G, 12
REDCUTOFF	15	D, 7
REDCUTOFF	18	G, 5
REDOUT_S2KEY	16	J, 8
REDOUT_S2KEY	18	K, 6
RESET_S1CO	15	E, 2
RESET_S1CO	15	B, 7
ROT_S1M3	15	D, 7
ROT_S1M3	18	J, 6
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S0	6	J, 8
S0_S2M2	16	G, 6
S0_S2M2	18	J, 6
S1	2	J, 12
S1	6	J, 8
S1_S2M2	16	G, 6
S1_S2M2	18	J, 6
S2	2	J, 12
S2	6	J, 8
S2_S2M2	16	G, 6
S2_S2M2	18	J, 6
S3	2	I, 8
S3	6	J, 8
S3_S2M2	16	G, 6
S3_S2M2	18	J, 6
S4	2	J, 8
S4	6	J, 8
S4_S2M2	16	G, 6
S4_S2M2	18	J, 6
S5	2	J, 8
S5	6	J, 8
S5_S2M2	16	G, 6
S5_S2M2	18	J, 6
SCAP_S2S4	2	F, 15
SCAP_S2S4	4	H, 1
SCL_S1OSD	15	G, 13
SCL_S1OSD	18	F, 5
SDA_S1OSD	15	G, 13
SDA_S1OSD	18	F, 5
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SIDE_PIN_S1S3	17	J, 3
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SL506_HSYNC_PIC_6	6	G, 8
SL506_VSYNC_PIC_13	6	G, 13
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SPC_S3MAIN	18	I, 6
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T405_3	2	D, 6
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T502_01	5	I, 1
T502_02	5	F, 13
T502_02	5	I, 2
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TX_MP_S1S2	16	K, 9
TXD68_S1S1	15	D, 13
TXD68_S1S1	15	L, 13
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USB_RXD	6	E, 8
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USB_RXD_S2V	16	J, 11
USB_RXD_S2V	18	E, 5
USB_TXD	6	G, 13
USB_TXD	6	E, 8
USB_TXD	14	F, 14
USB_TXD_S2V	16	J, 10
USB_TXD_S2V	18	E, 5
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V_CONVERGENCE	6	G, 8
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V_CONVG21B	18	G, 5
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V_DRV_S1S3	17	C, 1
V_FLB12_S3MA	14	E, 12
V_FLB12_S3MA	14	C, 2
V_FLB12_S3MA	17	F, 1
V_FLB12_S3MA	18	I, 6
V_FLB5_S1S3	15	H, 15
V_FLB5_S1S3	17	F, 1
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VHOLD_S1S3	17	C, 15
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VOSC_VIS4S3	6	E, 8
VOSC_VIS4S3	13	G, 7
VOSC_VIS4S3	14	E, 12
VOSC_VIS4S3	17	C, 1
VOSC_VIS4S3	18	E, 5
VPOL	6	G, 13
VPOL	6	G, 8
VPOL	13	J, 6
VPOL	14	F, 12
VPOL_S1V4	15	D, 14
VPOL_S1V4	18	G, 5
VRAMP_S3M	3	D, 1
VRAMP_S3M	6	I, 8
VRAMP_S3M3	17	H, 13
VRAMP_S3M3	18	I, 5
VRETAC12_S3M	3	C, 1
VRETAC12_S3M	6	I, 9
VRETAC12_S3M	6	F, 13
VRETRC_BUS	15	H, 11
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